

June 10, 2008

Diana Mason State of Utah Department of Oil, Gas & Mining 1594 West North Temple, Suite 1210 P.O. Box 145801 Salt Lake City, Utah 84114-5801

Re: <u>Directional Drilling R649-3-11</u>

NBU 1022-24G3S

Surface: NESE Sec 24-T10S-R22E 2037' FSL & 1184' FEL Bottomhole: SWNE Sec 24-T10S-R22E 2225' FNL & 2140' FEL

#### Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore, L.P.'s Application for Permit to Drill regarding the above referenced well on June 10, 2008, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling of Wells.

- Kerr-McGee's NBU 1022-24G3S is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to access portions of our lease which are otherwise inaccessible due to topography.
- Furthermore, Kerr-McGee hereby certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee requests the permit be granted pursuant to R649-3-11.

Sincerely,

Kevin McIntyre

Regulatory Analyst

me

JUN 1 1 2008

DIV. OF OIL, GAS & MINING

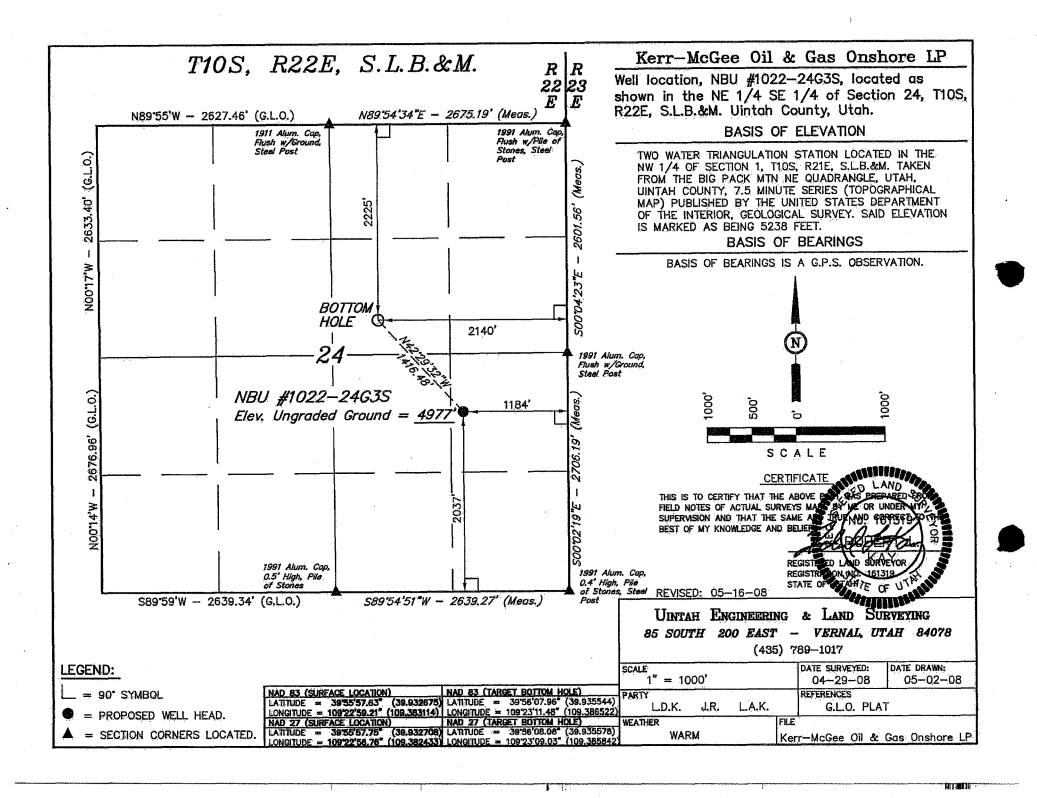
STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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	RM	

AMENDED REPORT (highlight changes)

	A	PPLICAT	TION FOR	PERMIT TO	DRILL	_ T	5. MINERAL LEASE NO: ST ML 23610	6. SURFACE: State
1A. TYPE OF W	ork: DF	RILL 🔽	REENTER [	DEEPEN			7. IF INDIAN, ALLOTTEE O	R TRIBE NAME:
B. TYPE OF WE	ELL: OIL	gas 🗹	OTHER	SIN	GLE ZONE MULTIPLE ZON	EZ	8. UNIT OF CA AGREEMEN	T NAME;
2. NAME OF OP						$\dashv$	9. WELL NAME and NUMB	ER:
	e Oil & Gas	Onshore, L	P				NBU 1022-24G	
3. ADDRESS OF P.O. Box 1	73779	<sub>CITY</sub> Denve	er <sub>sta</sub>	TE CO ZIP 80.	217-3779 (720) 929-6226		10. FIELD AND POOL, OR Natural Buttes F	Field
4. LOCATION OF AT SURFACE:	3 8 2 2 1 X 2037' FSL	<sup>8)</sup> 44213 & 1184' FEI	364 39	. 932749	-109.38239/		11. QTR/QTR, SECTION, 1 MERIDIAN: NESE 24 1	rownship, range,  OS 22E
6379	23 X 44	216464	225' FNL& 2 <i>39-935</i>	<u> 589 -10</u>	9.385808			
	N MILES AND DIRECT		REST TOWN OR PO	ST OFFICE:		1	12. COUNTY: Uintah	13. STATE: UTAH
	O NEAREST PROPE		INE (EEET)	16 NUMBER O	F ACRES IN LEASE:	17 NU	MBER OF ACRES ASSIGN	ED TO THIS WELL:
1184'	O NEARLOTT NOT	INTO ON LEAGE E	and (FEET)	TO. NOMBER O	200	17.140	MIDER OF ACRES ASSIST	20
	O NEAREST WELL R) ON THIS LEASE		LETED, OR	19. PROPOSED	DEPTH:	20. BO	ND DESCRIPTION:	
2500'	CIN THIS CEASE	(TEET)	_		8,032	RL	B0005237	
	S (SHOW WHETHER	DF, RT, GR, ETC	.):	22. APPROXIM	ATE DATE WORK WILL START:	1	TIMATED DURATION:	
4977		<u> </u>		1		10	days ———————	
24.			PROPOS	ED CASING A	ND CEMENTING PROGRAM			
SIZE OF HOLE	CASING SIZE, G	GRADE, AND WEIG	HT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUA	ANTITY, Y	IELD, AND SLURRY WEIG	нт
12 1/4"	9 5/8"	J-55	36#	1,500	Premium Cement	21	l5 sx 1.	18 15.6
					Premium Cement	5	50 sx 1.	18 15.6
				22				
7 7/8"	4 1/2"	I-80	11.6#	809 8.145	Premium Lite II	29	90 sx 3.0	38 11.0
					50/50 Poz/G	124	10 sx 1.0	31 14.3
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25.		<u></u>		ATTA	CHMENTS		<del></del>	
VERIFY THE FOI	LLOWING ARE ATTA	ACHED IN ACCOR	DANCE WITH THE U	ITAH OIL AND GAS C	ONSERVATION GENERAL RULES:			
✓ WELL PL	AT OR MAP PREPA	RED BY LICENSE	D SURVEYOR OR E	NGINEER	COMPLETE DRILLING PLAN			
✓ EVIDENCE	CE OF DIVISION OF	WATER RIGHTS /	APPROVAL FOR USI	E OF WATER	FORM 5, IF OPERATOR IS PE	RSON OF	R COMPANY OTHER THAN	THE LEASE OWNER
	Kevin N	//cIntyre			Regulatory An	alvst I		
NAME (PLEASE	PRINT) 10 1			····		alyot i	<del></del>	
SIGNATURE		· m			DATE 6/10/2008			
(This space for Sta	ite use only)				Approved by the Utah Division of		* DEOEN	/CD
API NUMBER AS	SIGNED: 4	3-047-9	40142	Oil			RECEIV	
ALTROMOER AS	OIGINED.	+ ' /	<u> </u>		N. FINOVAL.		JUN 11	2008
(11/2001)			-	Date: (See Instruction	01-68-0900		DIV. OF OIL, GAS	& MINING
							A CONTRACTOR OF THE PROPERTY O	

(11/2001)



#### NBU 1022-24G3S NESE Sec. 24, T 10S R 22E UINTAH COUNTY, UTAH ST ML 23610

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

#### 1. <u>Estimated Tops of Important Geologic Markers:</u>

<u>Formation</u>	<u>Depth</u>
Uinta	0- Surface
Green River	498'
Top of Birds Nest Water	845'
Mahogany	1194'
Wasatch	3540'
Mesaverde	5731'
MVU2	6571'
MVL1	7175'
TVD	7700'
MD	8032'

#### 2. <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:</u>

Substance	<u>Formation</u>	<u>Depth</u>
	Green River	498'
Water	Top of Birds Nest Water	845'
	Mahogany	1194'
Gas	Wasatch	3540'
Gas	Mesaverde	5731'
Gas	MVU2	6571'
Gas	MVL1	7175'
Water	N/A	
Other Minerals	N/A	

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program.

#### 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program.

#### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program.

#### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program.

#### 7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 7700' TVD, approximately equals 4774 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 3080 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

#### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. <u>Variances:</u>

Please refer to the attached Drilling Program.

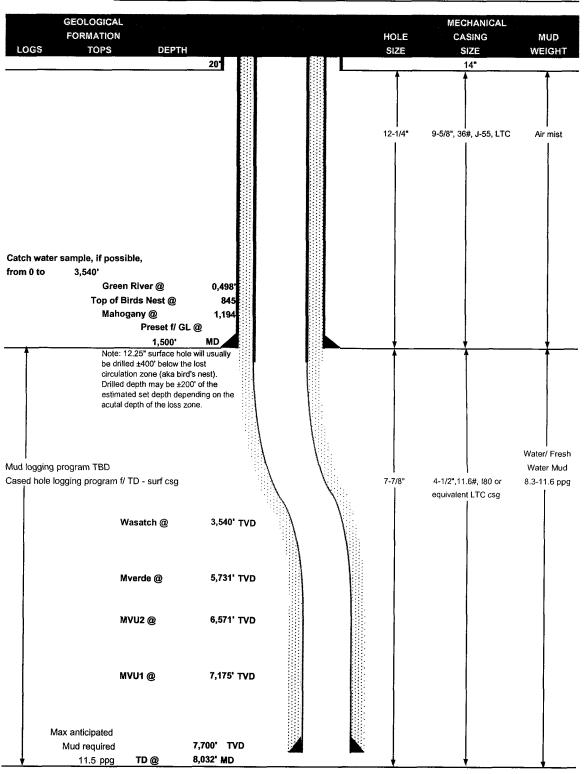
#### 10. Other Information:

Please refer to the attached Drilling Program.



## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	(ERR-McGEE OIL & GAS ONSHORE LP	DATE J	une 10, 2008	
WELL NAME	NBU 1022-24G3S	TD7	,700' TVD	8,032' MD
FIELD Natural Butte	s COUNTY Uintah STATE L	Itah ELEV	ATION 4,977' GL	KB 4,992'
SURFACE LOCATION	NESE 2037' FSL & 1184' FEL, Sec. 24, T 10S R 2	2E		
	Latitude: 39.932708 Longitude: -109.	382433	NAD 27	
BTM HOLE LOCATION	SWNE 2225' FNL & 2140' FEL, Sec. 24, T 10S R	22E		
	Latitude: 39.935578 Longitude: -109.	385842	NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde			
ADDITIONAL INFO	Regulatory Agencies: UDOGM (MINERALS AND	SURFACE), BLM	l, Tri-County Health Dept.	







#### DRILLING PROGRAM

CASING PROGRAM
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							DESIGN FACTORS			
	SIZE	INT	ERVAL	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"		0-40'							
							3520	2020	453000	
SURFACE	9-5/8"	0	to 150		J-55	LTC	1.21	2.88	10.68	
							7780	6350	201000	
PRODUCTION	4-1/2"	0	to 770	0 11.60	1-80	LTC	2.67	1.38	2.47	
					1.41		1		or tught of	

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point)
- 2) MASP (Prod Casing) = Pore Pressure at TD (.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.5 ppg)

.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 3080 psi

#### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD 500		500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ .25 pps flocele				
	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl + .25 pps flocele				a to ast
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE			NOTE: If well will circulate water to su	rface, optio	n 2 will be	utilized	
Option 2	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite	360	35%	12.60	1.81
			+.25 pps Flocele + 3% salt BWOW				
	TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
		i i i i i i i i i i i i i i i i i i i	+ .25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTIO	N LEAD	3,032'	Premium Lite II + 3% KCI + 0.25 pps	290	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,000'	50/50 Poz/G + 10% salt + 2% gel	1230	40%	14.30	1.31
			+.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.						
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow spring centralizers.						

#### ADDITIONAL INFORMATION

DRILLING SUPERINTENDENT:

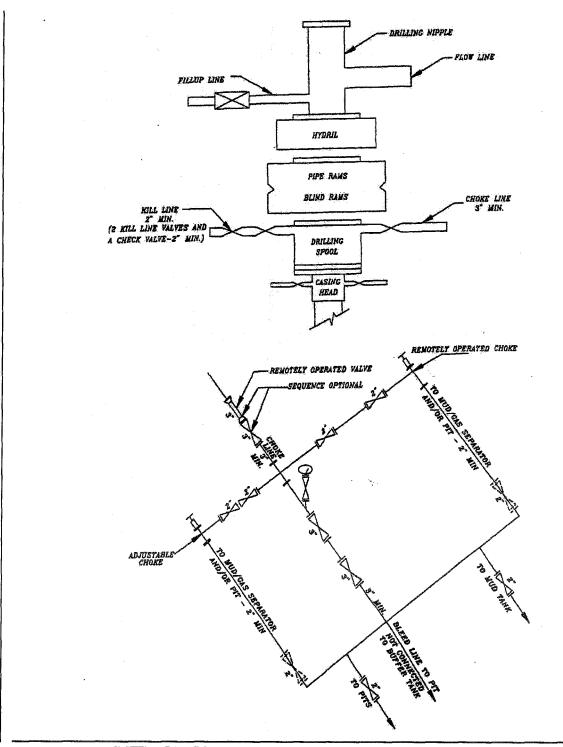
**DRILLING** 

Fest casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.
3OPE: 11" 5M with one annular and 2 rams. Test to 5,000 psi (annular to 2,500 psi) prior to drilling out. Record on chart recorder &
our sheet. Function test rams on each trip. Maintain safety valve & inside BOP on rig floor at all times. Kelly to be equipped with upper
k lower kelly valves.
Orop Totco surveys every 2000'. Maximum allowable hole angle is 5 degrees.
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.
ENGINEER: DATE:
Brad Laney

Randy Bayne NBU 1022-24G3S.xls DATE:

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

#### **EXHIBIT A**



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

#### NBU 1022-24G3S NESE Sec. 24, T 10S R 22E Uintah County, UT ST ML 23610

#### **ONSHORE ORDER NO. 1**

#### MULTI-POINT SURFACE USE & OPERATIONS PLAN

#### 1. Directional Drilling:

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

#### 2. Existing Roads:

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2 mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

#### 3. Planned Access Roads:

Approximately 67° +/- of new access road is proposed. Refer to Topo Map B for the location of the proposed access road.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

#### 4. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

#### 5. Location of Existing & Proposed Facilities:

The following guidelines will apply if the well is productive.

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Carlsbad Canyon, standard color number 2.5Y 6/2.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

Approximately 17,450' of 10" pipeline is proposed. Refer to Topo D for the proposed pipeline.

#### 6. <u>Location and Type of Water Supply:</u>

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32, T4S, R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### 7. Source of Construction Materials:

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

#### 8. <u>Methods of Handling Waste Materials</u>:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit

walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used, it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit.

Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S, R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E, Pipeline Facility, Sec. 36, T9S, R20E, Goat Pasture Evaporation Pond, SW/4 Sec. 16, T10S, R22E, Bonanza Evaporation Pond, Sec. 2, T10S, R23E.

#### 9. Ancillary Facilities:

None are anticipated.

#### 10. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

#### 11. Plans for Reclamation of the Surface:

Producing Location:

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water (s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

#### 12. Surface/Mineral Ownership:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

#### 13. Other Information:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey has been completed and is attached.

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it Within 460' of any non-committed tract lying within the boundaries of the Unit.

#### 14. <u>Lessee's or Operators's Representative & Certification:</u>

Kevin McIntyre Regulatory Analyst Kerr-McGee Oil & Gas Onshore LP P.O. Box 173779 Denver, CO 80217-3779 (720) 929-6226 Randy Bayne Drilling Manager Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East Vernal, UT 84078 (435)781-7018

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

#### NBU 1022-24G3S Surface Use & Operations Plan Page 6

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond #RLB0005237.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Kevin McIntyre

6/10/2008

Date



## **Drilling Services**

## **Proposal**



#### **ANADARKO - KERR McGEE**

NBU#1022-24G3S (1022-24I PAD)

**UINTAH COUNTY, UTAH** 

**WELL FILE: PLAN 1** 

JUNE 5, 2008

Weatherford International, Ltd.

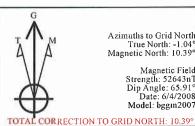
15710 John F. Kennedy Blvd Houston, Texas 77032 USA +1.281.260.1300 Main +1.281.260.4730 Fax www.weatherford.com





#### KERR MCGEE OIL & GAS NBU #1022-24G3S **UINTAH COUNTY, UTAH**





1000

Azimuths to Grid North True North: -1.04° Magnetic North: 10.39°

Magnetic Field Strength: 52643nT Dip Angle: 65.91° Date: 6/4/2008 Model: bggm2007

	SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	
1 2 3 4	0.00 1560.00 2560.00 4368.72	0,00 0,00 30,00 30,00	316.49 316.49 316.49 316.49	0.00 1560.00 2514.93 4081.33	0.00 0.00 185.57 841,43	0.00 0.00 -176.17 -798.83	0.00 0.00 3.00 0.00	0.00 0.00 316.49 0.00	0.00 0.00 255.87 1160.23		
5	5368.72 8032.46	0,00	316,49 316,49	5036.26 7700.00	1027.00 1027.00	-975.00 -975.00	3.00 0.00	180.00 0.00	1416.11 1416.11	PBHL-24G3S	

#### WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
NBU 1022-24G3S	-18,00	-35.00	14505651.00	2093885.00	39°55'57,753N	109°22'56.756W	N/A



KB ELEV = 4994'GR ELEV = 4974'

FIELD DETAILS

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Geodetic System: Universal Transverse Mercator (USfeet) Ellipsoid: NAD27 (Clarke 1866) Zone: UTM Zone 12, North 114W to 108W Magnetic Model: bggm2007

System Datum: Mean Sea Level

SITE DETAILS

NBU 1022-24I PAD SECT 22-T10S-R24E

Site Centre Northing: 14505669.00 Easting: 2093920.00

Ground Level: 4974.00 Positional Uncertainty: 0.00 Convergence: 1.04

#### TARGET DETAILS

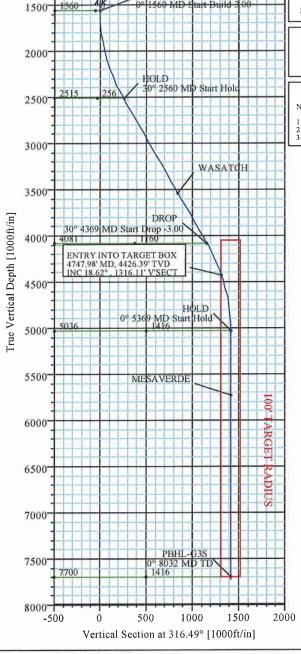
TVD +N/-S +E/-W Northing Easting Shape

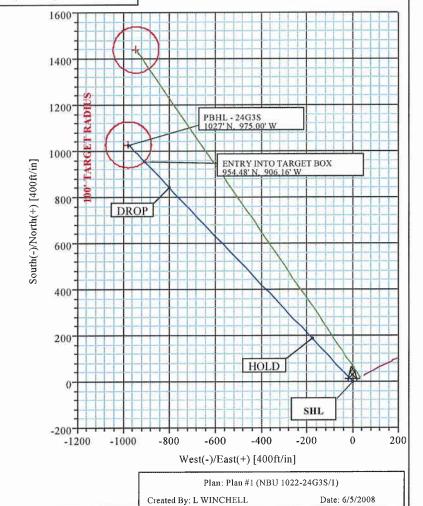
PBHL-24G3S 7700.00 1027.00 -975.00 14506678,00 2092910.00 Circle (Radius: 100)

#### FORMATION TOP DETAILS

No. TVDPath MDPath Formation

498 00 3540 00 5731 00 498.00 3743.65 6063.46 GREEN RIVER WASATCH MESAVERDE







## Weatherford Drilling Services **Directional Plan Report**



Page:

Company: Anadarko-Kerr-McGee

Field: UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

NBU 1022-24I PAD Site: NBU 1022-24G3S Well:

Wellpath:

6/4/2008 Date:

Time: 16:30:51 Co-ordinate(NE) Reference:

Well: NBU 1022-24G3S, Grid North

Vertical (TVD) Reference: SITE 4994.0 Section (VS) Reference:

Well (0.00N,0.00E,316.49Azi)

Survey Calculation Method: Minimum Curvature Db: Sybase

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) Field:

Map System: Universal Transverse Mercator (USfeet)

Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level

Map Zone:

UTM Zone 12, North 114W to 108W

Coordinate System: Geomagnetic Model:

Well Centre bggm2007

NBU 1022-24I PAD Site:

SECT 22-T10S-R24E

Northing: 14505669.00 ft Latitude: 39 55 57.924 N Site Position: 56.303 W 109 22 2093920.00 ft Longitude: From: Мар Easting: Grid **Position Uncertainty:** 0.00 ft North Reference:

4974.00 ft Ground Level:

+N/-S

SITE

Grid Convergence:

1.04 deg

Well: NBU 1022-24G3S

6/4/2008

Depth From (TVD)

Slot Name: Latitude:

55 57.753 N 109 22 56.756 W

Surface

+E/-W**Position Uncertainty:** 

Well Position:

Wellpath: 1

**Current Datum:** 

Magnetic Data:

Field Strength:

Vertical Section:

-18.00 ft -35.00 ft 0.00 ft

Northing:

Easting:

2093885.00 ft Longitude:

52643 nT

Height 4994.00 ft

14505651.00 ft

Tie-on Depth: Above System Datum:

Drilled From:

0.00 ft Mean Sea Level

+N/-S

ft

Declination: Mag Dip Angle: +E/-W

11.43 deg 65.91 deg

ft

Direction deg

316.49 0.00 0.00 0.00

Plan: Plan #1 Date Composed: Version:

6/4/2008

Principal: Yes Tied-to:

From Surface

#### **Plan Section Information**

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ff	Build t deg/100ff	Turn deg/100ft	TFO deg	Target
0.00	0.00	316.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1560.00	0.00	316.49	1560.00	0.00	0.00	0.00	0.00	0.00	0.00	
2560.00	30.00	316.49	2514.93	185.57	-176.17	3.00	3.00	0.00	316.49	
4368.72	30.00	316.49	4081.33	841.43	-798.83	0.00	0.00	0.00	0.00	
5368.72	0.00	316.49	5036.26	1027.00	-975.00	3.00	-3.00	0.00	180.00	
8032.46	0.00	316.49	7700.00	1027.00	-975.00	0.00	0.00	0.00	0.00	PBHL-24G3S

#### Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Commen
1500.00	0.00	316.49	1500.00	0.00	0.00	0.00	0.00	14505651.00	2093885.00	9 5/8" CSG PT
1560.00	0.00	316.49	1560.00	0.00	0.00	0.00	0.00	14505651.00	2093885.00	KOP
1600.00	1.20	316.49	1600.00	0.30	-0.29	0.42	3.00	14505651.30	2093884.71	
1700.00	4.20	316.49	1699.87	3.72	-3.53	5.13	3.00	14505654.72	2093881.47	
1800.00	7.20	316.49	1799.37	10.92	-10.37	15.06	3.00	14505661.92	2093874.63	
1900.00	10.20	316.49	1898.21	21.89	-20.78	30.18	3.00	14505672.89	2093864.22	
2000.00	13.20	316.49	1996.12	36.60	-34.74	50.46	3.00	14505687.60	2093850.26	
2100.00	16.20	316.49	2092.83	55.00	-52.21	75.83	3.00	14505706.00	2093832.79	
2200.00	19.20	316.49	2188.09	77.04	-73.14	106.23	3.00	14505728.04	2093811.86	
2300.00	22.20	316.49	2281.62	102.68	-97.48	141.58	3.00	14505753.68	2093787.52	
2400.00	25.20	316.49	2373.18	131.82	-125.15	181.77	3.00	14505782.82	2093759.85	
2500.00	28.20	316.49	2462.51	164.40	-156.08	226.69	3.00	14505815.40	2093728.92	
2560.00	30.00	316.49	2514.93	185.57	-176.17	255.87	3.00	14505836.57	2093708.83	HOLD
2600.00	30.00	316.49	2549.57	200.07	-189.94	275.87	0.00	14505851.07	2093695.06	
2700.00	30.00	316.49	2636.17	236.33	-224.37	325.87	0.00	14505887.33	2093660.63	



## Weatherford Drilling Services **Directional Plan Report**



Company: Anadarko-Kerr-McGee
Field: UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)
Site: NBU 1022-24I PAD

NBU 1022-24G3S Well:

Wellpath: 1

Date: 6/4/2008

Time: 16:30:51 Co-ordinate(NE) Reference:

Page: Well: NBU 1022-24G3S, Grid North

SITE 4994.0 Vertical (TVD) Reference:

Well (0.00N,0.00E,316.49Azi) Db: Sybase

Section (VS) Reference: Survey Calculation Method: Minimum Curvature

vey	In a 1	A mir	TVD	NI/C	E/W	VC	DLS	ManN	MapE	Com
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	deg/100ft	MapN ft	Maps.	
2800.00	30.00	316.49	2722.78	272.59	-258.79	375.87	0.00	14505923.59	2093626.21	
2900.00	30.00	316.49	2809.38	308.86	-293.22	425.87	0.00	14505959.86	2093591.78	
3000.00	30.00	316.49	2895.98	345.12	-327.64	475.87	0.00	14505996.12	2093557.36	
3100.00	30.00	316.49	2982.58	381.38	-362.07	525.87	0.00	14506032.38	2093522.93	
3200.00	30.00	316.49	3069.19	417.64	-396.49	575.87	0.00	14506068.64	2093488.51	
3300.00	30.00	316.49	3155.79	453.90	-430.92	625.87	0.00	14506104.90	2093454.08	
3400.00	30.00	316.49	3242.39	490.16	-465.34	675.87	0.00	14506141.16	2093419.66	
3500.00	30.00	316.49	3328.99	526.42	-499.77	725.87	0.00	14506177.42	2093385.23	
3600.00	30.00	316.49	3415.60	562.69	-534.19	775.87	0.00	14506213.69	2093350.81	
3700.00	30.00	316.49	3502.20	598.95	-568.62	825.87	0.00	14506249.95	2093316.38	
3743.65	30.00	316.49	3540.00	614.77	-583.65	847.70	0.00	14506265.77	2093301.35	WASATCH
3800.00	30.00	316.49	3588.80	635.21	-603.05	875.87	0.00	14506286.21	2093281.95	
3900.00	30.00	316.49	3675.40	671.47	-637.47	925.87	0.00	14506322.47	2093247.53	
4000.00	30.00	316.49	3762.01	707.73	-671.90	975.87	0.00	14506358.73	2093213.10	
4100.00	30.00	316.49	3848.61	743.99	-706.32	1025.87	0.00	14506394.99	2093178.68	
4200.00	30.00	316.49	3935.21	780.25	-740.75	1075.87	0.00	14506431.25	2093144.25	
4300.00	30.00	316.49	4021.81	816.52	-775.17	1125.87	0.00	14506467.52	2093109.83	
4368.72	30.00	316.49	4081.33	841.43	-798.83	1160.23	0.00	14506492.43	2093086.17	DROP
4400.00	29.06	316.49	4108.54	852.62	-809.44	1175.65	3.00	14506503.62	2093075.56	
4500.00	26.06	316.49	4197.18	886.17	-841.30	1221.92	3.00	14506537.17	2093043.70	
4600.00	23.06	316.49	4288.13	916.31	-869.91	1263.48	3.00	14506567.31	2093015.09	
4700.00	20.06	316.49	4381.12	942.96	-895.21	1300.22	3.00	14506593.96	2092989.79	
4747.98	18.62	316.49	4426.39	954.48	-906.16	1316.11	3.00	14506605.48	2092978.84	ENTER TARG
4800.00	17.06	316.49	4475.90	966.04	-917.13	1332.05	3.00	14506617.04	2092967.87	
4900.00	14.06	316.49	4572.23	985.50	-935.60	1358.88	3.00	14506636.50	2092949.40	
5000.00	11.06	316.49	4669.82	1001.27	950.57	1380.62	3.00	14506652.27	2092934.43	
5100.00	8.06	316.49	4768.42	1013.31	-962.01	1397.23	3.00	14506664.31	2092922.99	
5200.00	5.06	316.49	4867.76	1021.60	-969.87	1408.66	3.00	14506672.60	2092915.13	
5300.00	2.06	316.49	4967.55	1026.10	-974.15	1414.87	3.00	14506677.10	2092910.85	HOLD
5368.72	0.00	316.49	5036.26	1027.00	-975.00	1416.11	3.00	14506678.00	2092910.00	HOLD
5400.00	0.00	316.49	5067.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
5500.00	0.00	316.49	5167.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
5600.00	0.00	316.49	5267.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
5700.00	0.00	316.49	5367.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
5800.00	0.00	316.49	5467.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
5900.00	0.00	316.49	5567.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
6000.00	0.00	316.49	5667.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	MESAVERDE
6063.46	0.00	316.49	5731.00	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	MICOUALLO
6100.00	0.00	316.49	5767.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
6200.00	0.00	316.49	5867.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
6300.00	0.00	316.49	5967.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00 2092910.00	
6400.00	0.00	316.49	6067.54	1027.00	-975.00	1416.11	0.00	14506678.00 14506678.00	2092910.00	
6500.00	0.00	316.49	6167.54	1027.00	-975.00 -975.00	1416.11 1416.11	0.00 0.00	14506678.00	2092910.00	
6600.00 6700.00	0.00 0.00	316.49 316.49	6267.54 6367.54	1027.00 1027.00	-975.00 -975.00	1416.11	0.00	14506678.00	2092910.00	
				1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
6800.00	0.00	316.49	6467.54	1027.00	-975.00 -975.00	1416.11	0.00	14506678.00	2092910.00	
6900.00	0.00	316.49	6567.54	1027.00	-975.00 -975.00	1416.11	0.00	14506678.00	2092910.00	
7000.00 7100.00	0.00	316.49 316.49	6667.54	1027.00	-975.00 -975.00	1416.11	0.00	14506678.00	2092910.00	
7100.00 7200.00	0.00 0.00	316.49 316.49	6767.54 6867.54	1027.00	-975.00 -975.00	1416.11	0.00	14506678.00	2092910.00	
7300.00	0.00	316.49	6967.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
7400.00 7400.00	0.00	316.49	7067.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	



## Weatherford Drilling Services **Directional Plan Report**



Company: Anadarko-Kerr-McGee

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) NBU 1022-24I PAD Field:

Site: NBU 1022-24G3S Well:

Wellpath: 1

Date: 6/4/2008

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

**Survey Calculation Method:** 

Section (VS) Reference:

Time: 16:30:51 Page: : Well: NBU 1022-24G3S, Grid North SITE 4994.0

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
7600.00	0.00	316.49	7267.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
7700.00	0.00	316.49	7367.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
7800.00	0.00	316.49	7467.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
7900.00	0.00	316.49	7567.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
8000.00	0.00	316.49	7667.54	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	
8032.46	0.00	316.49	7700.00	1027.00	-975.00	1416.11	0.00	14506678.00	2092910.00	PBHL-24G3S

#### **Targets**

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft		- Lati Min			ongitude> lin Sec
PBHL-24G3S -Circle (Radiu -Plan hit targe			7700.00	1027.00	-975.00	14506678.002	2092910.00	39	56	8.076 N	109 23	9.034 W

#### Casing Points

#### Annotation

MD ft	TVD ft	,	
1560.00 2560.00	1560.00 2514.93	KOP HOLD	
4368.72 4747.98	4081.33 4426.39 5036.26	DROP ENTER TARGET HOLD	
5368.72 8032.46	7700.00	PBHL-G3S	

#### **Formations**

M	D TVD	Formations	Lithology	Dip Angle deg	Dip Direction deg
498.	00 498.00	GREEN RIVER		0.00	0.00
3743		WASATCH		0.00	0.00
6063.		MESAVERDE	<u>-</u>	0.00	0.00





Anadarko-Kerr-McGee Company: Field:

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

NBU 1022-24I PAD Reference Site: NBU 1022-24G3S Reference Well:

Reference Wellpath: 1

Date: 6/5/2008

Time: 08:43:22

Page:

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Reference:

Error Model:

Scan Method:

**Error Surface:** 

Well: NBU 1022-24G3S, Grid North

SITE 4994.0

Ellipse

Plan: Plan #1 ISCWSA Ellipse

Closest Approach 3D

Db: Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria

Interpolation Method: TVD Depth Range:

Interval: 8032.46 ft

0.00 to Maximum Radius: 10000.00 ft

Date Composed:

6/4/2008

Summary

Principal: Yes

Plan #1

Version: Tied-to:

From Surface

< O Site	ffset Wellpath Well	> Wellpath	Reference MD ft	Offset MD ft	Ctr-Ctr Distance ft	_	Separation Factor	Warning
NBU 1022-24I PAD NBU 1022-24I PAD		1 V0 Plan: Plan #1 V1 1 V0 Plan: Plan #1 V1	4390.21 1600.00	4385.54 1598.79	222.01 59.57	173.07 53.12	4.54 9.24	

NBU 1022-24I PAD NBU 1022-24G2S Well: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00

ft

Reference   MD	Wellpath:	1 V0 Plan	n: Plan #1 V	′1			_			Inter-Sit	e Error:	0.00	<u>π</u>	
ft         ft<	Ref	erence	Of	fset	Semi-M	lajor Axis	3	Offset	Location					
0.00	1		MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distanc	e Factor	Warning	
100.00	ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft			
100.00	0.00	0.00	0.00	0.00	0.00	0.00	62.78	18.00	35.00	39.36			No Data	
200.00         200.00         200.00         200.00         200.00         35.00         39.36         38.35         37.93         27.63           500.00         500.00         500.00         500.00         500.00         500.00         500.00         39.20         62.78         18.00         35.00         39.36         37.51         21.35           600.00         600.00         600.00         1.13         1.13         62.78         18.00         35.00         39.36         36.68         14.68           800.00         800.00         800.00         800.00         1.55         1.55         62.78         18.00         35.00         39.36         36.26         12.70           900.00         900.00         1000.00         1000.00         1000.00         1000.00         30.30         33.00         39.36         35.42         10.00	1										39.19	234.90		
300.00 300.00 300.00 300.00 0.50 0.50 0.							62.78	18.00	35.00		38.77	67.11		
400.00							62.78	18.00		39.36	38.35	39.15		
600.00         600.00         600.00         600.00         1.13         1.13         62.78         18.00         35.00         39.36         37.10         17.40           700.00         700.00         700.00         700.00         700.00         1.55         1.55         62.78         18.00         35.00         39.36         36.68         14.68           800.00         800.00         800.00         1.55         1.55         62.78         18.00         35.00         39.36         36.28         12.70           900.00         900.00         1000.00 </td <td></td> <td></td> <td></td> <td></td> <td>0.71</td> <td>0.71</td> <td>62.78</td> <td>18.00</td> <td>35.00</td> <td>39.36</td> <td>37.93</td> <td>27.63</td> <td></td> <td></td>					0.71	0.71	62.78	18.00	35.00	39.36	37.93	27.63		
600.00         600.00         600.00         600.00         1.13         1.13         62.78         18.00         35.00         39.36         37.10         17.40           700.00         700.00         700.00         700.00         700.00         1.55         1.55         62.78         18.00         35.00         39.36         36.68         14.68           800.00         800.00         800.00         1.55         1.55         62.78         18.00         35.00         39.36         36.28         12.70           900.00         900.00         1000.00 </td <td></td> <td></td> <td>500.00</td> <td>500.00</td> <td>0.00</td> <td>0.00</td> <td>00.70</td> <td>40.00</td> <td>05.00</td> <td>20.20</td> <td>27.54</td> <td>24.25</td> <td></td> <td></td>			500.00	500.00	0.00	0.00	00.70	40.00	05.00	20.20	27.54	24.25		
\$\begin{array}{cccccccccccccccccccccccccccccccccccc										39.30				
800.00         800.00         800.00         800.00         1.55         1.55         62.78         18.00         35.00         39.36         36.26         12.70           900.00         900.00         900.00         900.00         1.76         1.76         62.78         18.00         35.00         39.36         35.84         11.19           100.00         1000.00         1000.00         1000.00         1100.00         1100.00         39.36         35.42         10.00           1100.00         1100.00         1200.00         1200.00         2.39         2.39         62.78         18.00         35.00         39.36         35.42         10.00           1200.00         1200.00         1200.00         2.39         2.39         62.78         18.00         35.00         39.36         34.16         7.58           1300.00         1300.00         1300.00         1300.00         2.60         62.78         18.00         35.00         39.36         34.16         7.58           1400.00         1400.00         1400.00         2.81         2.81         2.81         62.78         18.00         35.00         39.36         33.33         6.52           1600.00         1500.00														1
1000.00   1000.00   1000.00   1000.00   1.76   1.76   62.78   18.00   35.00   39.36   35.84   11.19														
1000.00 1000.00 1000.00 1000.00 1.97 1.97 62.78 18.00 35.00 39.36 35.42 10.00 1100.00 1100.00 1100.00 2.18 2.18 62.78 18.00 35.00 39.36 35.00 9.03 1200.00 1200.00 1200.00 2.39 2.39 62.78 18.00 35.00 39.36 34.58 8.24 1300.00 1300.00 1300.00 1300.00 2.60 2.60 62.78 18.00 35.00 39.36 34.58 8.24 1300.00 1400.00 1400.00 1400.00 2.81 2.81 62.78 18.00 35.00 39.36 34.16 7.58 1400.00 1400.00 1500.00 1500.00 1500.00 3.02 3.02 62.78 18.00 35.00 39.36 33.74 7.01 1500.00 1500.00 1500.00 1500.00 3.02 3.02 62.78 18.00 35.00 39.36 33.74 7.01 1500.00 1500.00 1500.00 1500.00 1500.00 1500.00 1500.00 3.02 3.02 62.78 18.00 35.00 39.36 33.74 7.01 1700.13 1700.00 1700.49 1700.36 34.4 3.44 106.02 22.26 32.07 40.14 33.27 5.84 1800.64 1800.00 1801.24 1800.60 3.66 3.66 105.51 30.54 26.38 41.68 34.36 5.69 1901.82 1900.00 1902.65 1900.81 3.90 3.90 104.79 43.25 17.62 44.04 36.23 5.64 1900.00 1902.65 1900.81 3.90 3.90 104.79 43.25 17.62 44.04 36.23 5.64 100.00 200.00 2005.00 2000.98 4.18 4.19 103.92 60.52 5.75 47.25 38.87 5.64 100.00 2213.85 2201.16 4.97 4.97 101.98 109.31 -27.83 56.38 46.44 5.67 2319.89 2300.00 2321.13 2301.14 5.51 5.52 100.99 141.30 -48.83 62.40 51.37 5.66 100.00 2321.13 2301.14 5.51 5.52 100.99 141.30 -48.83 62.40 51.37 5.66 100.00 273.79 82.70 2700.00 273.98 2700.24 9.01 8.97 98.52 269.52 -138.05 86.67 70.75 5.45 288.21 2800.00 2688.87 2600.55 8.00 7.97 98.52 269.52 -138.05 86.67 70.75 5.45 288.21 2800.00 2688.87 2600.55 8.00 7.97 98.52 269.52 -138.05 86.67 70.75 5.45 288.21 2800.00 2688.87 2600.55 8.00 7.97 98.52 269.52 -138.05 86.67 70.75 5.45 288.21 2800.00 2688.87 2600.55 8.00 7.97 98.52 269.52 -138.05 86.67 70.75 5.45 288.21 2800.00 2688.87 2600.55 8.00 7.97 98.52 269.52 -138.05 86.67 70.75 5.45 288.21 2800.00 2889.10 2799.94 10.06 10.00 97.33 364.36 -203.30 104.69 84.69 5.23 3004.64 2900.00 3004.21 2899.63 11.14 11.05 97.42 411.78 -235.93 113.71 91.58 5.14 320.11 3000.00 3119.33 2999.32 12.23 12.12 97.16 459.20 -268.56 122.73 98.44 5.05 3351.05 3200.00 3484.68 3298.40 15.57 15.41 96.57 601.45 -366.43 140.77 112.09														
1100.00         1100.00         1100.00         1100.00         2.18         2.18         62.78         18.00         35.00         39.36         35.00         9.03           1200.00         1200.00         1200.00         1200.00         2.39         62.78         18.00         35.00         39.36         34.58         8.24           1300.00         1300.00         1300.00         1300.00         1300.00         1400.00         1400.00         2.60         62.78         18.00         35.00         39.36         34.16         7.58           1400.00         1400.00         1400.00         1500.00         30.2         30.2         62.78         18.00         35.00         39.36         33.74         7.01           1500.00         1500.00         1500.00         30.2         30.2         62.78         18.00         35.00         39.36         33.33         6.52           1600.00         1600.01         1500.00         30.2         30.2         62.78         18.00         35.00         39.36         33.33         6.52           1600.00         1600.01         1500.00         30.2         30.2         30.2         160.27         18.35         34.76         39.42         32.97 <td>900.00</td> <td>900.00</td> <td>900.00</td> <td>900.00</td> <td>1.76</td> <td>1.76</td> <td>62.78</td> <td>18.00</td> <td>35.00</td> <td>39.36</td> <td>35.84</td> <td>11.19</td> <td></td> <td></td>	900.00	900.00	900.00	900.00	1.76	1.76	62.78	18.00	35.00	39.36	35.84	11.19		
1100.00	1000.00	1000.00	1000.00	1000.00	1.97	1.97	62.78	18.00	35.00	39.36	35.42	10.00		1
1200.00       1200.00       1200.00       1200.00       2.39       2.39       62.78       18.00       35.00       39.36       34.58       8.24         1300.00       1300.00       1300.00       2.60       2.60       62.78       18.00       35.00       39.36       34.16       7.58         1400.00       1400.00       1400.00       1400.00       2.81       2.81       62.78       18.00       35.00       39.36       33.74       7.01         1500.00       1500.00       1500.00       1500.00       3.02       3.02       62.78       18.00       35.00       39.36       33.33       6.52         1600.00       1600.01       1600.11       1600.10       3.23       3.23       106.27       18.35       34.76       39.42       32.97       6.11         1700.13       1700.00       1700.49       1700.36       3.44       3.44       106.02       22.26       32.07       40.14       33.27       5.84         1800.64       1800.00       1801.24       1800.60       3.66       3.66       105.51       30.54       26.38       41.68       34.36       5.69         1901.82       1900.00       2005.00       200.88       4.18							62.78	18.00	35.00	39.36	35.00	9.03		
1300.00       1300.00       1300.00       2.60       2.60       62.78       18.00       35.00       39.36       34.16       7.58         1400.00       1400.00       1400.00       2.81       2.81       62.78       18.00       35.00       39.36       33.74       7.01         1500.00       1500.00       1500.00       3.02       3.02       62.78       18.00       35.00       39.36       33.33       6.52         1600.00       1600.00       1600.01       1600.11       1600.10       3.23       3.23       106.27       18.35       34.76       39.42       32.97       6.11         1700.13       1700.00       1700.49       1700.36       3.44       3.44       106.02       22.26       32.07       40.14       33.27       5.84         1800.64       1801.24       1800.60       3.66       3.66       105.51       30.54       26.38       41.68       34.34       5.69         1901.82       1900.00       1902.65       1900.81       3.90       3.90       104.79       43.25       17.62       44.04       36.23       5.64         2003.99       2000.00       2205.00       2200.88       4.18       4.19       103.92				1200.00	2.39	2.39	62.78		35.00	39.36	34.58	8.24		
1400.00         1400.00         1400.00         2.81         2.81         62.78         18.00         35.00         39.36         33.74         7.01           1500.00         1500.00         1500.00         3.02         3.02         62.78         18.00         35.00         39.36         33.37         7.01           1600.00         1600.01         1600.11         1600.10         3.23         3.23         106.27         18.35         34.76         39.42         32.97         6.11           1700.13         1700.00         1700.49         1700.36         3.44         3.44         106.02         22.26         32.07         40.14         33.27         5.84           1800.64         1800.00         1801.24         1800.60         3.66         3.66         105.51         30.54         26.38         41.68         34.36         5.69           1901.82         1900.00         1902.65         1900.81         3.90         104.79         43.25         17.62         44.04         36.23         5.64           2003.99         2000.00         205.60         2000.98         4.18         4.19         103.92         60.52         5.75         47.25         38.87         5.64									35.00	39.36	34.16			
1600.00       1600.10       1600.11       1600.10       3.23       3.23       106.27       18.35       34.76       39.42       32.97       6.11         1700.13       1700.00       1700.49       1700.36       3.44       3.44       106.02       22.26       32.07       40.14       33.27       5.84         1800.64       1800.00       1801.24       1800.60       3.66       3.66       105.51       30.54       26.38       41.68       34.36       5.69         1901.82       1900.00       1902.65       1900.81       3.90       3.90       104.79       43.25       17.62       44.04       36.23       5.64         2003.99       2000.00       2005.00       2000.98       4.18       4.19       103.92       60.52       5.75       47.25       38.87       5.64         2107.47       2100.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       243.78       2500.														Ì
1600.00       1600.10       1600.11       1600.10       3.23       3.23       106.27       18.35       34.76       39.42       32.97       6.11         1700.13       1700.00       1700.49       1700.36       3.44       3.44       106.02       22.26       32.07       40.14       33.27       5.84         1800.64       1800.00       1801.24       1800.60       3.66       3.66       105.51       30.54       26.38       41.68       34.36       5.69         1901.82       1900.00       1902.65       1900.81       3.90       3.90       104.79       43.25       17.62       44.04       36.23       5.64         2003.99       2000.00       2005.00       2000.98       4.18       4.19       103.92       60.52       5.75       47.25       38.87       5.64         2107.47       2100.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       243.78       2500.	4.000.00	4500.00	4500.00	4500.00	0.00	0.00	00.70	40.00	05.00	20.26	22.22	6.50		
1700.13       1700.00       1700.49       1700.36       3.44       3.44       106.02       22.26       32.07       40.14       33.27       5.84         1800.64       1800.00       1801.24       1800.60       3.66       3.66       105.51       30.54       26.38       41.68       34.36       5.69         1901.82       1900.00       1902.65       1900.81       3.90       3.90       104.79       43.25       17.62       44.04       36.23       5.64         2003.99       2000.00       2005.00       2000.98       4.18       4.19       103.92       60.52       5.75       47.25       38.87       5.64         2107.47       2100.00       2108.62       2101.10       4.53       4.54       102.97       82.47       -9.36       51.35       42.28       5.66         2212.63       2200.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       243.78       2500.														
1800.64       1800.00       1801.24       1800.60       3.66       3.66       105.51       30.54       26.38       41.68       34.36       5.69         1901.82       1900.00       1902.65       1900.81       3.90       3.90       104.79       43.25       17.62       44.04       36.23       5.64         2003.99       2000.00       2005.00       2000.98       4.18       4.19       103.92       60.52       5.75       47.25       38.87       5.64         2107.47       2100.00       2108.62       2101.10       4.53       4.54       102.97       82.47       -9.36       51.35       42.28       5.66         2212.63       2200.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       25														
1901.82       1900.00       1902.65       1900.81       3.90       3.90       104.79       43.25       17.62       44.04       36.23       5.64         2003.99       2000.00       2005.00       2000.98       4.18       4.19       103.92       60.52       5.75       47.25       38.87       5.64         2107.47       2100.00       2108.62       2101.10       4.53       4.54       102.97       82.47       -9.36       51.35       42.28       5.66         2212.63       2200.00       2213.85       2201.16       4.97       40.19.81       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55														
2003.99       2000.00       2005.00       2000.98       4.18       4.19       103.92       60.52       5.75       47.25       38.87       5.64         2107.47       2100.00       2108.62       2101.10       4.53       4.54       102.97       82.47       -9.36       51.35       42.28       5.66         2212.63       2200.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>														
2107.47       2100.00       2108.62       2101.10       4.53       4.54       102.97       82.47       -9.36       51.35       42.28       5.66         2212.63       2200.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10	1901.82	1900.00	1902.65	1900.81	3.90	3.90	104.79	43.25	17.62	44.04	36.23	5.64		
2107.47       2100.00       2108.62       2101.10       4.53       4.54       102.97       82.47       -9.36       51.35       42.28       5.66         2212.63       2200.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10	2003.99	2000.00	2005.00	2000.98	4.18	4.19	103.92	60.52	5.75	47.25	38.87	5.64		
2212.63       2200.00       2213.85       2201.16       4.97       4.97       101.98       109.31       -27.83       56.38       46.44       5.67         2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         300.464       2900.00       3004.21	2107.47	2100.00	2108.62	2101.10	4.53	4.54	102.97	82.47	-9.36	51.35	42.28	5.66		
2319.89       2300.00       2321.13       2301.14       5.51       5.52       100.99       141.30       -49.83       62.40       51.37       5.66         2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         3004.64       2900.00       3004.21       2899.63       11.14       11.05       97.42       411.78       -235.93       113.71       91.58       5.14         3120.11       3000.00       3119.33 <td></td> <td>2200.00</td> <td>2213.85</td> <td>2201.16</td> <td>4.97</td> <td></td> <td></td> <td>109.31</td> <td>-27.83</td> <td>56.38</td> <td>46.44</td> <td>5.67</td> <td></td> <td></td>		2200.00	2213.85	2201.16	4.97			109.31	-27.83	56.38	46.44	5.67		
2429.75       2400.00       2430.91       2401.04       6.20       6.19       100.03       178.77       -75.62       69.47       57.09       5.61         2542.81       2500.00       2543.78       2500.85       7.03       7.01       99.11       222.17       -105.47       77.68       63.68       5.55         2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         3004.64       2900.00       3004.21       2899.63       11.14       11.05       97.42       411.78       -235.93       113.71       91.58       5.14         3120.11       300.00       3119.33       2999.32       12.23       12.12       97.16       459.20       -268.56       122.73       98.44       5.05         3235.58       3100.00       3234.45<						5.52	100.99	141.30	-49.83	62.40	51.37	5.66		
2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         3004.64       2900.00       3004.21       2899.63       11.14       11.05       97.42       411.78       -235.93       113.71       91.58       5.14         3120.11       3000.00       3119.33       2999.32       12.23       12.12       97.16       459.20       -268.56       122.73       98.44       5.05         3235.58       3100.00       3234.45       3099.02       13.33       13.21       96.94       506.61       -301.18       131.75       105.27       4.98         3351.05       3200.00       3349.56       3198.71       14.45       14.30       96.74       554.03       -333.81       140.77       112.09       4.91         3466.52       3300.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td>6.19</td><td>100.03</td><td>178.77</td><td>-75.62</td><td>69.47</td><td>57.09</td><td>5.61</td><td></td><td></td></td<>						6.19	100.03	178.77	-75.62	69.47	57.09	5.61		
2658.23       2600.00       2658.87       2600.55       8.00       7.97       98.52       269.52       -138.05       86.67       70.75       5.45         2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         3004.64       2900.00       3004.21       2899.63       11.14       11.05       97.42       411.78       -235.93       113.71       91.58       5.14         3120.11       3000.00       3119.33       2999.32       12.23       12.12       97.16       459.20       -268.56       122.73       98.44       5.05         3235.58       3100.00       3234.45       3099.02       13.33       13.21       96.94       506.61       -301.18       131.75       105.27       4.98         3351.05       3200.00       3349.56       3198.71       14.45       14.30       96.74       554.03       -333.81       140.77       112.09       4.91         3466.52       3300.00 <td< td=""><td>2542.04</td><td>2500.00</td><td>2542.70</td><td>2500.05</td><td>7.02</td><td>7.04</td><td>00 11</td><td>222 17</td><td>-105.47</td><td>77.68</td><td>63 68</td><td>5 55</td><td></td><td></td></td<>	2542.04	2500.00	2542.70	2500.05	7.02	7.04	00 11	222 17	-105.47	77.68	63 68	5 55		
2773.70       2700.00       2773.98       2700.24       9.01       8.97       98.09       316.94       -170.68       95.67       77.75       5.34         2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         3004.64       2900.00       3004.21       2899.63       11.14       11.05       97.42       411.78       -235.93       113.71       91.58       5.14         3120.11       3000.00       3119.33       2999.32       12.23       12.12       97.16       459.20       -268.56       122.73       98.44       5.05         3235.58       3100.00       3234.45       3099.02       13.33       13.21       96.94       506.61       -301.18       131.75       105.27       4.98         3351.05       3200.00       3349.56       3198.71       14.45       14.30       96.74       554.03       -333.81       140.77       112.09       4.91         3466.52       3300.00       3464.68       3298.40       15.57       15.41       96.57       601.45       -366.43       149.80       118.89       4.85														
2889.17       2800.00       2889.10       2799.94       10.06       10.00       97.73       364.36       -203.30       104.69       84.69       5.23         3004.64       2900.00       3004.21       2899.63       11.14       11.05       97.42       411.78       -235.93       113.71       91.58       5.14         3120.11       3000.00       3119.33       2999.32       12.23       12.12       97.16       459.20       -268.56       122.73       98.44       5.05         3235.58       3100.00       3234.45       3099.02       13.33       13.21       96.94       506.61       -301.18       131.75       105.27       4.98         3351.05       3200.00       3349.56       3198.71       14.45       14.30       96.74       554.03       -333.81       140.77       112.09       4.91         3466.52       3300.00       3464.68       3298.40       15.57       15.41       96.57       601.45       -366.43       149.80       118.89       4.85														
3004.64 2900.00 3004.21 2899.63 11.14 11.05 97.42 411.78 -235.93 113.71 91.58 5.14  3120.11 3000.00 3119.33 2999.32 12.23 12.12 97.16 459.20 -268.56 122.73 98.44 5.05  3235.58 3100.00 3234.45 3099.02 13.33 13.21 96.94 506.61 -301.18 131.75 105.27 4.98  3351.05 3200.00 3349.56 3198.71 14.45 14.30 96.74 554.03 -333.81 140.77 112.09 4.91  3466.52 3300.00 3464.68 3298.40 15.57 15.41 96.57 601.45 -366.43 149.80 118.89 4.85														
3120.11 3000.00 3119.33 2999.32 12.23 12.12 97.16 459.20 -268.56 122.73 98.44 5.05 3235.58 3100.00 3234.45 3099.02 13.33 13.21 96.94 506.61 -301.18 131.75 105.27 4.98 3351.05 3200.00 3349.56 3198.71 14.45 14.30 96.74 554.03 -333.81 140.77 112.09 4.91 3466.52 3300.00 3464.68 3298.40 15.57 15.41 96.57 601.45 -366.43 149.80 118.89 4.85														
3235.58 3100.00 3234.45 3099.02 13.33 13.21 96.94 506.61 -301.18 131.75 105.27 4.98 3351.05 3200.00 3349.56 3198.71 14.45 14.30 96.74 554.03 -333.81 140.77 112.09 4.91 3466.52 3300.00 3464.68 3298.40 15.57 15.41 96.57 601.45 -366.43 149.80 118.89 4.85	3004.64	2900.00	3004.21	∠899.63	11.14	11.05	91.42	411./0	-230.83	113.71	91,50	J. 14		
3351.05 3200.00 3349.56 3198.71 14.45 14.30 96.74 554.03 -333.81 140.77 112.09 4.91 3466.52 3300.00 3464.68 3298.40 15.57 15.41 96.57 601.45 -366.43 149.80 118.89 4.85			3119.33											
3351.05 3200.00 3349.56 3198.71 14.45 14.30 96.74 554.03 -333.81 140.77 112.09 4.91 3466.52 3300.00 3464.68 3298.40 15.57 15.41 96.57 601.45 -366.43 149.80 118.89 4.85	3235.58	3100.00												j
		3200.00	3349.56	3198.71								4.91		
3581.99 3400.00 3579.79 3398.10 16.70 16.52 96.42 648.87 -399.06 158.82 125.69 4.79	3466.52	3300.00	3464.68	3298.40		15.41						4.85		
	3581.99	3400.00	3579.79	3398.10	16.70	16.52	96.42	648.87	-399.06	158.82	125.69	4.79		
3697.46 3500.00 3694.91 3497.79 17.84 17.63 96.28 696.29 -431.68 167.85 132.47 4.74	3697.46	3500.00	3694.91	3497.79	17.84	17.63	96.28	696.29	-431.68	167.85	132.47	4.74		





Well: NBU 1022-24G3S, Grid North

Company: Field:

Anadarko-Kerr-McGee

Date: 6/5/2008

Time: 08:43:22

Reference Site: Reference Well:

Reference Wellpath: 1

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)
NBU 1022-24I PAD
NBU 1022-24G3S
Ver

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

SITE 4994.0

Db: Sybase

Well: Wellpath: 1 V0 Plan: Plan #1 V1

NBU 1022-24I PAD NBU 1022-24G2S

Inter-Site Error: 0.00 ft

		rence	Of MD	fset	Semi-M	lajor Axis	meo H	Offset	Location			Separation	Wanning	
	MД			TVD	Ref ft	ft	deg	S North ft	East ft	Distance	ft	ractor	Warning	
L	ft	ft	ft	ft	IL		ueg							
	3812.93	3600.00	3810.03	3597.48	18.97	18.75	96.16		-464.31	176.88		4.70		
	3928.40	3700.00	3925.14	3697.18	20.12	19.87	96.05		-496.93	185.91		4.66		
	4043.87	3800.00	4040.26	3796.87	21.26	20.99	95.95		-529.56	194.94		4.62		
1	4159.34	3900.00	4155.37	3896.56	22.41	22.12	95.86	885.96	-562.18	203.97	159.54	4.59		
l	4274.81	4000.00	4270.49	3996.26	23.56	23.25	95.77		-594.81	213.00		4.56		1
Ì	4390.21	4100.00	4385.54	4095.89	24.67	24.38		980.77		222.01		4.54		
	4503.13	4200.00	4498.02	4193.31	25.39	25.49		1027.11		230.43		4.54		
	4612.89	4300.00	4606.95	4287.64	25.99	26.56		1071.98		238.39		4.55		
	4720.06	4400.00	4712.58	4379.11	26.50	27.60	88.87	1115.49	-720.10	246.68	192.89	4.59		
				4407.00	00.04	00.04	04.40	4457.70	740.40	056.00	204.60	4.60		
	4825.15	4500.00	4815.11	4467.92	26.91	28.61		1157.72		256.32		4.68		
	4928.58	4600.00	4914.72	4554.18	27.24	29.60	79.51	1198.75	-///.39	268.40		4.87 5.18		
1	5030.70	4700.00	5013.45	4639.80	27.48	30.50		1239.26		283.89		5.16 5.61		
	5131.86	4800.00	5116.62	4731.25	27.65	31.13		1278.58		301.77		6.12		
	5232.35	4900.00	5221.15	4826.39	27.73	31.70	04.25	1314.21	-850.83	321.14	200.09	0.12		- 1
1	5000 40	5000.00	5007.00	400E 00	27.75	22.20	60 OF	1245 00	979.60	341.63	200.70	6.71		
	5332.46	5000.00	5327.38	4925.36	27.75	32.20		1345.98 1373.74		362.32		9.59		
	5432.46	5100.00	5436.05	5028.66	27.76	32.63 32.98		1373.74		380.49		10.36		
	5532.46	5200.00	5548.35	5137.24	27.81 27.87	33.24		1415.97		395.06		10.38		
	5632.46	5300.00	5663.79	5250.42				1429.19		405.42		11.41		
	5732.46	5400.00	5781.64	5367.15	27.92	33.41	5.55	1428.18	-935.94	400.42	309.00	11.71		
	5832.46	5500.00	5901.05	5486.21	27.98	33.48	4 75	1436.52	-940 98	411.17	375.88	11.65		
	5932.46	5600.00	6014.87	5600.00	28.04	33.47		1438.00		412.32		16.40		
1	6032.46	5700.00	6114.87	5700.00	28.10	33.53		1438.00		412.32		16.24		İ
ĺ	6132.46	5800.00	6214.87	5800.00	28.16	33.58		1438.00		412.32		16.07		-
-	6232.46	5900.00	6314.87	5900.00	28.23	33.63		1438.00		412.32		15.91		
	0202.40	0000.00	001-4.07	0000.00	20.20	00.00			0 .2.00					
	6332.46	6000.00	6414.87	6000.00	28.29	33.69	4.59	1438.00	-942.00	412.32	386.13	15.74		
	6432.46	6100.00	6514.87	6100.00	28.36	33.75		1438.00		412.32	385.86	15.58		
	6532.46	6200.00	6614.87	6200.00	28.43	33.81	4.59	1438.00	-942.00	412.32	385.58	15.42		
	6632.46	6300.00	6714.87	6300.00	28.50	33.87	4.59	1438.00	-942.00	412.32	385.30	15.26		
-	6732.46	6400.00	6814.87	6400.00	28.57	33.93		1438.00		412.32	385.02	15.10		
1														
İ	6832.46	6500.00	6914.87	6500.00	28.64	33.99		1438.00		412.32		14.94		
	6932.46	6600.00	7014.87	6600.00	28.72	34.05	4.59	1438.00	-942.00	412.32	384.44	14.79		1
-	7032.46	6700.00	7114.87	6700.00	28.79	34.12		1438.00		412.32		14.63		1
	7132.46	6800.00	7214.87	6800.00	28.87	34.18		1438.00		412.32		14.48		- 1
	7232.46	6900.00	7314.87	6900.00	28.95	34.25	4.59	1438.00	-942.00	412.32	383.55	14.33		
	7332.46	7000.00	7414.87	7000.00	29.02	34.32		1438.00		412.32		14.18		
	7432.46	7100.00	7514.87	7100.00	29.11	34.39		1438.00		412.32		14.03		
	7532.46	7200.00	7614.87	7200.00	29.19	34.46		1438.00		412.32	382.64	13.89		
	7632.46	7300.00	7714.87	7300.00	29.27	34.53		1438.00		412.32		13.75		
	7732.46	7400.00	7814.87	7400.00	29.35	34.60	4.59	1438.00	-942.00	412.32	382.07	13.60		
		==00.00	704407	7500.00	00.44	04.07	4.50	4400.00	0.40.00	440.00	204 70	12.46		
	7832.46	7500.00	7914.87	7500.00	29.44	34.67		1438.00		412.32 412.32		13.46 13.32		1
	7932.46	7600.00	8014.87	7600.00	29.53	34.75		1438.00				13.32		
	8032.46	7700.00	8114.8 <i>1</i>	7700.00	29.61	34.82	4.59	1438.00	-942.00	412.32	301.00	13.18		

Site: Well: NBU 1022-24I PAD NBU 1022-24I1S

Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site	Error:	0.00	f
111111111111111111111111111111111111111	LIIVI.	0.00	

Refe	rence	Of	set	Semi-M	lajor Axis		Offset 1	ocation	Ctr-Ctr	Edge	Separation	
MD ft	TVD ft	MD ft	TVD ft	Ref ft	Offset ft	TFO-HS deg	North ft	East ft	Distance ft	Distance ft	Factor	Warning
0.00 100.00 200.00	0.00 100.00 200.00	0.00 100.00 200.00	0.00 100.00 200.00	0.00 0.08 0.29	0.00 0.08 0.29	63.87 63.87 63.87	26.00 26.00 26.00	53.00 53.00 53.00	59.03 59.03 59.03	58.87 58.45	352.33 100.67	No Data
200.00	200.00	200.00		0.20	0.20					30.10		





Company:

Anadarko-Kerr-McGee Date UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Date: 6/5/2008

Time: 08:43:22

Field: Reference Site: NBU 1022-24I PAD

Well: NBU 1022-24G3S, Grid North

Reference Well: NBU 1022-24G3S Reference Wellpath: 1

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

SITE 4994.0

Db: Sybase

NBU 1022-24I PAD Site: NBU 1022-24I1S Well: Wellpath: 1 V0 Plan: Plan #1 V1

ft Inter-Site Error: 0.00

Reference   MJD   TVD   ft   ft   ft   ft   ft   ft   ft   f	Wellpath:	1 V0 Plar	ı: Plan #1 V	/1						Inter-Sit	e Error:	0.00	ft	
No.   Typ   No.   Typ   Ref   Offset   Fro-His   North   East   Distance   Factor   Warning   Ref   North   Ref	Refe	rence	Of	ffset	Semi-M	lajor Axis		Offset .	Location	Ctr-Ctr	Edge S	Separation		
300.00   300.00   300.00   300.00   300.00   0.50   0.50   63.87   26.00   53.00   59.03   58.03   58.75   41.45			MD	TVD	Ref	Offset	TFO-HS	North				Factor	Warning	
400.00		ft	ft	ft	ft	ft	deg	ft	ft	ft	ft			
\$\begin{array}{c c c c c c c c c c c c c c c c c c c	200.00	200.00	300.00	200.00	0.50	0.50	63.87	26.00	53.00	50.03	58.03	58 72		$\neg$
\$\begin{array}{cccccccccccccccccccccccccccccccccccc														
BODO	400.00	400.00	400.00	400.00	0.71	0.71	03.07	20.00	55.00	59.05	57.01	41.40		
BODO	500.00	500.00	500.00	500.00	0.92	0.92	63.87	26.00	53.00	59.03	57 19	32 03		
700.00         700.00         700.00         700.00         700.00         1.34         1.34         63.87         26.00         53.00         59.03         56.35         22.02           800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         800.00         1.76         1.76         63.87         26.00         53.00         59.03         55.52         16.78           1000.00         1100.00         1100.00         1100.00         1100.00         1100.00         1100.00         1200.00         23.00         59.03         55.10         14.99           1100.00         1100.00         1200.00         220.00         2.39         2.38         63.87         26.00         53.00         59.03         54.26         12.36           1400.00         1400.00         1400.00         2.81         2.81         8.87         26.00         53.00         59.03         53.02         9.79           1500.00         1500.00         1500.00         150.00         30.2         3.02         36.87         26.00         53.00         59.03         53.00 <t< td=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>														
800.00 800.00 800.00 800.00 1.555 1.55 63.87 26.00 53.00 59.03 55.92 16.78 1000.00 1000.00 1000.00 1.76 1.76 63.87 26.00 53.00 59.03 55.52 16.78 1000.00 1000.00 1000.00 1.76 1.76 63.87 26.00 53.00 59.03 55.52 16.78 1100.00 1100.00 1100.00 1100.00 1.97 1.97 63.87 26.00 53.00 59.03 55.50 14.89 13.55 1200.00 1200.00 1200.00 1200.00 2.39 2.39 63.87 26.00 53.00 59.03 54.26 13.55 1300.00 1300.00 1300.00 1300.00 2.60 2.60 2.60 2.60 63.87 26.00 53.00 59.03 54.26 13.55 1300.00 1300.00 1400.00 1400.00 1400.00 2.81 2.81 63.87 26.00 53.00 59.03 54.26 11.37 1400.00 1400.00 1400.00 1400.00 3.02 3.02 2.80 63.87 26.00 53.00 59.03 53.42 10.52 150.00 1500.00 1500.00 1500.00 1500.00 3.02 3.02 3.02 63.87 26.00 53.00 59.03 53.42 10.52 1500.00 1500.00 1500.00 1500.00 1508.00 1508.00 1508.79 1588.79 3.23 3.23 3.23 3.22 10.773 26.18 53.35 59.57 53.12 9.24 1700.13 1700.00 1695.48 1695.48 1695.36 3.44 3.43 11.26 28.20 57.27 65.71 58.86 9.59 1800.64 1800.00 1895.20 1883.63 3.80 3.86 122.15 38.64 27.56 101.27 93.60 13.21 10.94 1901.82 1900.00 1885.20 1883.63 3.90 3.86 122.15 38.64 27.56 101.27 93.60 13.21 203.99 200.00 1876.96 1973.65 4.18 4.11 126.33 46.75 93.31 131.69 123.60 16.27 212.63 220.00 2151.64 2142.13 4.97 4.71 131.10 67.60 133.80 218.02 208.92 23.96 2319.89 2300.00 233.61 2219.64 5.51 5.07 132.13 79.80 157.50 101.27 93.60 13.21 221.24 25.20 200.00 2161.64 2375.92 7.03 5.96 133.02 108.19 212.65 408.79 397.39 35.85 268.83 2500.00 240.86 7.75 50 12.27 10.00 2778.00 2775.00 2565.77 9.01 1.00 6 7.58 137.80 157.50 273.82 264.10 28.17 249.75 2400.00 233.61 221.86 61.78 2617.19 10.06 7.58 137.80 157.50 273.82 264.10 28.17 2800.00 2748.49 2697.61 11.14 14.57 18.78 18.28 18.29 19.15 40.02 134.43 229.00 2748.49 2697.61 11.14 14.78 18.10 2.78 18.29 19.15 40.02 134.55 13.00 132.93 3004.04 290.00 2748.49 2697.61 11.14 14.73 13.80 15.65 23.00 14.40 24.2														
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1000.00 1000.00 1000.00 1000.00 1.97 197 197 63.87 26.00 53.00 59.03 55.10 14.99 1200.00 1200.00 1200.00 1200.00 2.39 2.39 63.87 26.00 53.00 59.03 54.26 13.55 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1300.00 1500.00 1400.00 1400.00 1400.00 1400.00 1400.00 1500.00														
1100.00	000.00	500.00	000.00	000.00	10		00.0.							
1100.00	1000.00	1000.00	1000.00	1000.00	1.97	1.97	63.87	26.00	53.00	59.03	55.10	14.99		
1200.00   1200.00   1200.00   1200.00   239   2.39   63.87   26.00   53.00   59.03   53.84   11.37								26.00	53.00	59.03	54.68	13.55		
1300.00   1300.00   1300.00   1300.00   2.60   2.60   2.60   63.87   26.00   53.00   59.03   53.42   10.52									53.00	59.03	54.26	12.36		1
1400.00						2.60	63.87	26.00	53.00	59.03	53.84	11.37		
1500.00						2.81	63.87	26.00	53.00		53.42	10.52		
1500.00														
1600.00         1600.00         1598.79         1598.79         3.23         3.22         107.73         26.18         53.35         595.7         55.12         9.24           1700.13         1700.00         1695.48         1695.36         3.44         3.43         111.26         28.20         57.27         66.71         58.68         9.59           1800.64         1800.00         1791.17         1790.61         3.66         3.64         116.79         32.40         65.42         79.37         72.11         10.94           1901.82         1900.00         1885.20         1883.63         3.80         3.22.15         38.64         77.56         101.27         93.60         13.21           2003.99         2000.00         1976.96         1973.65         4.18         4.11         126.33         46.75         93.31         131.69         123.60         16.27           2107.47         2100.00         2056.89         2060.00         4.53         4.39         129.25         56.49         112.22         170.63         162.07         19.92           2319.89         2300.00         2314.43         2295.01         6.20         5.48         132.59         167.50         273.82         266.11	1500.00	1500.00	1500.00	1500.00	3.02				53.00	59.03				
1700.13   1700.00   1695.48   1695.36   3.44   3.43   111.26   28.20   57.27   65.71   58.86   9.59   1800.64   1800.00   1791.17   1790.61   3.66   3.64   116.79   32.40   65.42   79.37   72.11   10.94   1901.82   1900.00   1885.20   1883.63   3.90   3.86   122.15   38.64   77.56   101.27   93.60   13.21						3.22	107.73							
1901.82   1900.00   1885.20   1883.63   3.90   3.86   122.15   38.64   77.56   101.27   93.60   13.21			1695.48	1695.36	3.44									
2003.99 2000.00 1976.96 1973.65 4.18 4.11 126.33 46.75 93.31 131.69 123.60 16.27 2107.47 2100.00 2065.89 2060.00 4.53 4.39 129.25 56.49 112.22 170.63 162.07 19.92 2212.63 2200.00 2151.54 2142.13 4.97 4.71 131.10 67.60 133.80 218.02 208.92 23.96 2319.89 2300.00 2233.51 2219.64 5.51 5.07 132.13 79.80 157.50 273.82 264.10 28.17 2429.75 2400.00 2314.43 2295.01 6.20 5.48 132.59 93.26 183.66 337.98 327.51 32.28 2542.81 2500.00 2401.66 2375.92 7.03 5.96 133.02 108.19 212.65 408.79 397.39 35.85 2658.23 2600.00 2488.37 2456.35 8.00 6.48 134.91 123.02 241.46 483.82 471.38 38.91 2773.70 2700.00 2575.08 2536.77 9.01 7.02 136.55 137.86 2702.8 559.23 545.73 41.43 2889.17 2800.00 2661.78 2617.19 10.06 7.58 137.80 152.69 299.09 634.84 620.25 43.50 3004.64 2800.00 2748.49 2697.61 11.14 8.14 138.79 167.53 327.91 710.59 694.88 45.22 3120.11 3000.00 2835.19 2778.03 12.23 8.72 139.59 182.36 365.72 786.45 769.59 46.66 3235.58 3100.00 2921.90 2858.45 13.33 9.31 140.25 197.20 385.54 862.37 844.36 47.88 3351.05 3200.00 3014.41 2944.29 14.45 9.87 140.84 212.98 416.20 938.29 919.15 49.02 3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3697.46 3500.00 3818.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 392.84 390.00 3848.16 3833.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 24.67 11.69 147.85 93.00 1593.00 1590.78 1255.05 51.3 4300.00 4495.08 4000.00 25.99 11.62 145.55 304.00 593.00 1590.78 1255.00 54.40 1495.08 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1655.53 162.84 62.03 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1655.53 162.84 62.03 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1655.53 162.84 62.03 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1655.53 1628.44 62.03 4928.84 400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1655.53 1628.44 62.03 4928.84 400.00 4495.08 400.00 26.50 11.90 155.60 30	1800.64	1800.00	1791.17	1790.61	3.66									
2107.47   2100.00   2065.89   2060.00   4.53   4.39   129.25   56.49   112.22   170.63   162.07   19.92   2212.63   2200.00   2151.54   2142.13   4.97   4.71   131.10   67.60   133.80   218.02   208.92   23.96   2319.89   2300.00   2233.51   2219.64   5.51   5.07   132.13   79.80   157.50   273.82   264.10   28.17   2429.75   2400.00   2314.43   2295.01   6.20   5.48   132.59   93.26   183.66   337.98   327.51   32.28   2542.81   2500.00   2408.83   7.2456.35   8.00   6.48   134.91   123.02   241.46   483.82   471.33   38.91   2773.70   2700.00   2575.08   2536.77   9.01   7.02   136.55   137.86   270.28   559.23   545.73   41.43   2889.17   2800.00   261.78   2617.19   10.06   7.58   137.80   152.69   299.09   634.84   620.25   43.50   3004.64   2900.00   2748.49   2697.61   11.14   8.14   138.79   167.53   327.91   710.59   694.88   45.22   3120.11   3000.00   2921.90   2925.84   51.33   33.11   140.25   197.20   3865.44   86.23   380.90   3132.39   3054.94   15.57   10.23   141.62   231.71   452.58   1012.45   992.43   50.57   3581.99   3400.00   3255.85   3172.42   16.70   10.59   142.53   249.06   486.28   1083.90   1063.02   51.90   3891.93   3800.00   3518.68   3427.34   18.97   11.22   144.71   278.18   542.85   1218.18   1195.71   54.21   3928.40   3700.00   3048.16   3853.14   22.41   11.64   148.85   302.44   589.94   1396.56   1372.34   57.67   57.67   4274.81   4000.00   4095.08   4000.00   23.56   11.60   150.43   304.00   593.00   1449.70   1423.40   55.13   425.85   4500.00   4395.08   4000.00   25.99   11.82   154.55   304.00   593.00   1695.88   62.03   450.00   4395.08   4400.00   24.95.08   4400.00	1901.82	1900.00	1885.20	1883.63	3.90	3.86	122.15	38.64	77.56	101.27	93.60	13.21		
2107.47   2100.00   2065.89   2060.00   4.53   4.39   129.25   56.49   112.22   170.63   162.07   19.92   2212.63   2200.00   2151.54   2142.13   4.97   4.71   131.10   67.60   133.80   218.02   208.92   23.96   2319.89   2300.00   2233.51   2219.64   5.51   5.07   132.13   79.80   157.50   273.82   264.10   28.17   2429.75   2400.00   2314.43   2295.01   6.20   5.48   132.59   93.26   183.66   337.98   327.51   32.28   2542.81   2500.00   2408.83   7.2456.35   8.00   6.48   134.91   123.02   241.46   483.82   471.33   38.91   2773.70   2700.00   2575.08   2536.77   9.01   7.02   136.55   137.86   270.28   559.23   545.73   41.43   2889.17   2800.00   261.78   2617.19   10.06   7.58   137.80   152.69   299.09   634.84   620.25   43.50   3004.64   2900.00   2748.49   2697.61   11.14   8.14   138.79   167.53   327.91   710.59   694.88   45.22   3120.11   3000.00   2921.90   2925.84   51.33   33.11   140.25   197.20   3865.44   86.23   380.90   3132.39   3054.94   15.57   10.23   141.62   231.71   452.58   1012.45   992.43   50.57   3581.99   3400.00   3255.85   3172.42   16.70   10.59   142.53   249.06   486.28   1083.90   1063.02   51.90   3891.93   3800.00   3518.68   3427.34   18.97   11.22   144.71   278.18   542.85   1218.18   1195.71   54.21   3928.40   3700.00   3048.16   3853.14   22.41   11.64   148.85   302.44   589.94   1396.56   1372.34   57.67   57.67   4274.81   4000.00   4095.08   4000.00   23.56   11.60   150.43   304.00   593.00   1449.70   1423.40   55.13   425.85   4500.00   4395.08   4000.00   25.99   11.82   154.55   304.00   593.00   1695.88   62.03   450.00   4395.08   4400.00   24.95.08   4400.00										,	400.0-	46.5=		
2212.63														1
2319.89														
2429.75         2400.00         2314.43         2295.01         6.20         5.48         132.59         93.26         183.66         337.98         327.51         32.28           2542.81         2500.00         2488.37         2456.35         8.00         6.48         134.91         123.02         241.46         483.82         471.38         38.91           2773.70         2700.00         2575.08         2536.77         9.01         7.02         136.55         137.86         270.28         559.23         545.73         41.43           2889.17         2800.00         2661.78         2617.19         10.06         7.58         137.80         152.69         299.09         634.84         620.25         43.50           3004.64         2900.00         2748.49         2697.61         11.14         8.14         138.79         167.53         327.91         710.59         694.88         45.22           3120.11         3000.00         2835.19         2778.03         12.23         8.72         139.59         182.36         356.72         786.45         769.59         46.66           3235.58         3100.00         3914.41         2944.29         144.55         9.87         140.84         212.98														- 1
2542.81 2500.00 2401.66 2375.92 7.03 5.96 133.02 108.19 212.65 408.79 397.39 35.85 2658.23 2600.00 2488.37 2456.35 8.00 6.48 134.91 123.02 241.46 483.82 471.38 38.91 2773.70 2700.00 2575.08 2536.77 9.01 7.02 136.55 137.86 270.28 559.23 545.73 41.43 2889.17 2800.00 2661.78 2617.19 10.06 7.58 137.80 152.69 299.09 634.84 620.25 43.50 3004.64 2900.00 2748.49 2697.61 11.14 8.14 138.79 167.53 327.91 710.59 694.88 45.22 3120.11 3000.00 2835.19 2778.03 12.23 8.72 139.59 182.36 356.72 786.45 769.59 46.66 3235.58 3100.00 2921.90 2858.45 13.33 9.31 140.25 197.20 385.54 862.37 844.36 47.88 3351.05 3200.00 3014.41 2944.29 14.45 9.87 140.84 212.98 416.20 938.29 919.15 49.02 3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 44274.81 4000.00 4095.08 4000.00 24.67 11.66 151.48 304.00 593.00 1591.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.39 11.82 154.55 304.00 593.00 1590.47 1653.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1655.53 1628.84 62.00 4595.08 4600.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4720.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4720.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4720.00 27.48 12.16 157.58 304.00 593.00 1655.53 1628.84 62.03 4720.00 27.48 12.16 157.58 304.00 593.00 1655.53 1628.84 62.03 4720.00 27.48 12.16 157.58 304.00 593.00 1655.53 1628.84 62.03 4720.00 27.48 12.16 157.58 304.00										273.82	264.10			
2658.23       2600.00       2488.37       2456.35       8.00       6.48       134.91       123.02       241.46       483.82       471.38       38.91         2773.70       2700.00       2561.78       2617.19       10.06       7.58       137.80       152.69       299.09       634.84       620.25       43.50         3004.64       2900.00       2748.49       2697.61       11.14       8.14       138.79       167.53       327.91       710.59       694.88       45.22         3120.11       3000.00       2835.19       2778.03       12.23       8.72       139.59       182.36       356.72       786.45       769.59       46.66         3235.58       3100.00       2921.90       2858.45       13.33       9.31       140.25       197.20       385.54       862.37       844.36       47.88         3351.05       3200.00       3014.41       2944.29       14.45       9.87       140.84       212.98       416.20       938.29       919.15       49.02         3466.52       3300.00       3132.39       3054.94       15.57       10.23       141.62       231.71       452.58       1012.45       992.43       50.57         3812.93       3600.00 <th>2429.75</th> <td>2400.00</td> <td>2314.43</td> <td>2295.01</td> <td>6.20</td> <td>5.48</td> <td>132.59</td> <td>93.26</td> <td>183.66</td> <td>337.98</td> <td>327.51</td> <td>32.28</td> <td></td> <td></td>	2429.75	2400.00	2314.43	2295.01	6.20	5.48	132.59	93.26	183.66	337.98	327.51	32.28		
2658.23       2600.00       2488.37       2456.35       8.00       6.48       134.91       123.02       241.46       483.82       471.38       38.91         2773.70       2700.00       2561.78       2617.19       10.06       7.58       137.80       152.69       299.09       634.84       620.25       43.50         3004.64       2900.00       2748.49       2697.61       11.14       8.14       138.79       167.53       327.91       710.59       694.88       45.22         3120.11       3000.00       2835.19       2778.03       12.23       8.72       139.59       182.36       356.72       786.45       769.59       46.66         3235.58       3100.00       2921.90       2858.45       13.33       9.31       140.25       197.20       385.54       862.37       844.36       47.88         3351.05       3200.00       3014.41       2944.29       14.45       9.87       140.84       212.98       416.20       938.29       919.15       49.02         3466.52       3300.00       3132.39       3054.94       15.57       10.23       141.62       231.71       452.58       1012.45       992.43       50.57         3812.93       3600.00 <th></th> <th></th> <th></th> <th></th> <th>- 00</th> <th>- 00</th> <th>400.00</th> <th>400.40</th> <th>040.05</th> <th>400.70</th> <th>207.20</th> <th>25.05</th> <th></th> <th></th>					- 00	- 00	400.00	400.40	040.05	400.70	207.20	25.05		
2773.70         2700.00         2575.08         236.77         9.01         7.02         136.55         137.86         270.28         559.23         545.73         41.43           2889.17         2800.00         2661.78         2617.19         10.06         7.58         137.80         152.69         299.09         634.84         620.25         43.50           3004.64         2900.00         2748.49         2697.61         11.14         8.14         138.79         167.53         327.91         710.59         694.88         45.22           3120.11         3000.00         2835.19         2778.03         12.23         8.72         139.59         182.36         356.72         786.45         769.59         46.66           3235.58         3100.00         2818.45         13.33         9.31         140.25         197.20         385.54         862.37         844.36         47.88           3351.05         3200.00         3014.41         2944.29         14.45         9.87         140.84         212.98         416.20         938.29         919.15         49.02           366.52         3300.00         3384.67         3296.64         17.84         10.93         143.56         264.67         516.61														ľ
2889.17         2800.00         2661.78         2617.19         10.06         7.58         137.80         152.69         299.09         634.84         620.25         43.50           3004.64         2900.00         2748.49         2697.61         11.14         8.14         138.79         167.53         327.91         710.59         694.88         45.22           3120.11         3000.00         2835.19         2778.03         12.23         8.72         139.59         182.36         356.72         786.45         769.59         46.66           3235.58         3100.00         2921.90         2858.45         13.33         9.31         140.25         197.20         385.54         862.37         844.36         47.88           3351.05         3200.00         3014.41         2944.29         14.45         9.87         140.84         212.98         416.20         938.29         919.15         49.02           3466.52         3300.00         3132.39         3054.94         15.57         10.23         141.62         231.71         452.58         1012.45         992.43         50.57           3681.99         3400.00         3518.68         3427.34         18.97         11.22         144.51         278.18 <th></th> <td></td>														
3004.64         2900.00         2748.49         2697.61         11.14         8.14         138.79         167.53         327.91         710.59         694.88         45.22           3120.11         3000.00         2835.19         2778.03         12.23         8.72         139.59         182.36         356.72         786.45         769.59         46.66           3235.58         3100.00         2921.90         2858.45         13.33         9.31         140.25         197.20         385.54         862.37         844.36         47.88           3351.05         3200.00         3014.41         2944.29         14.45         9.87         140.84         212.98         416.20         938.29         919.15         49.02           3466.52         3300.00         3255.85         3172.42         16.70         10.59         142.53         249.06         486.28         1083.90         1063.02         51.90           3697.46         3500.00         3518.68         3427.34         18.97         11.22         144.71         278.18         542.85         1218.18         1195.71         54.21           3928.40         3700.00         3657.56         3564.10         20.12         11.44         14.59         289.22														
3120.11 3000.00 2835.19 2778.03 12.23 8.72 139.59 182.36 356.72 786.45 769.59 46.66 3235.58 3100.00 2921.90 2858.45 13.33 9.31 140.25 197.20 385.54 862.37 844.36 47.88 3351.05 3200.00 3014.41 2944.29 14.45 9.87 140.84 212.98 416.20 938.29 919.15 49.02 3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3697.46 3500.00 3384.67 3296.64 17.84 10.93 143.56 264.67 516.61 1152.52 1130.81 53.09 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3800.90 3706.30 21.26 11.59 147.35 297.42 580.21 1340.25 1316.50 56.44 4159.34 3900.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 23.56 11.60 150.43 304.00 593.00 1449.70 1423.40 55.13 4300.21 4100.00 4195.08 4000.00 25.59 11.74 153.25 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.39 11.74 153.25 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4395.08 4200.00 25.99 11.82 154.55 304.00 593.00 1501.61 1474.89 56.21 4612.89 4300.00 4395.08 4300.00 25.99 11.82 155.60 304.00 593.00 1501.61 1474.89 56.21 4612.89 4300.00 4395.08 4300.00 25.99 11.82 155.60 304.00 593.00 1501.61 1474.89 56.21 4612.89 4300.00 4395.08 4300.00 25.99 11.82 155.60 304.00 593.00 1501.61 1474.89 56.21 4612.89 4300.00 4395.08 4300.00 25.99 11.82 155.60 304.00 593.00 1501.61 1474.89 56.21 4612.89 4300.00 4395.08 4300.00 25.99 11.82 155.60 304.00 593.00 1501.61 1474.89 56.21 462.89 4300.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1625.82 1599.10 60.84 4825.15 4500.00 4595.08 4500.00 27.24 12.07 157.08 304.00 593.00 1698.98 1672.42 63.96 5030.70 4700.00 4795.08 4700.00 27.44 12.07 157.08 304.00 593.00 1698.98 1672.42 63.96														- 1
3235.58 3100.00 2921.90 2858.45 13.33 9.31 140.25 197.20 385.54 862.37 844.36 47.88 3351.05 3200.00 3014.41 2944.29 14.45 9.87 140.84 212.98 416.20 938.29 919.15 49.02 3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3697.46 3500.00 3384.67 3296.64 17.84 10.93 143.56 264.67 516.61 1152.52 1130.81 53.09 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 23.56 11.60 150.43 304.00 593.00 1449.70 1423.40 55.13 4390.21 4100.00 4195.08 4100.00 24.67 11.66 151.64 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4300.00 26.50 11.90 155.60 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4995.08 4600.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4795.08 4600.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4795.08 4700.00 27.48 12.16 157.58 304.00 593.00 1698.98 1672.42 63.96	3004.64	2900.00	2748.49	2697.61	11.14	0.14	130.79	101.33	327.91	710.59	094.00	45.22		
3235.58 3100.00 2921.90 2858.45 13.33 9.31 140.25 197.20 385.54 862.37 844.36 47.88 3351.05 3200.00 3014.41 2944.29 14.45 9.87 140.84 212.98 416.20 938.29 919.15 49.02 3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3697.46 3500.00 3384.67 3296.64 17.84 10.93 143.56 264.67 516.61 1152.52 1130.81 53.09 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 23.56 11.60 150.43 304.00 593.00 1449.70 1423.40 55.13 4390.21 4100.00 4195.08 4100.00 24.67 11.66 151.64 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4300.00 26.50 11.90 155.60 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4995.08 4600.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4795.08 4600.00 27.24 12.07 157.08 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4795.08 4700.00 27.48 12.16 157.58 304.00 593.00 1698.98 1672.42 63.96	2420.44	2000.00	2025 40	2779.02	12.22	9.72	130.50	192 36	356 72	786 45	760 50	46 66		
3351.05 3200.00 3014.41 2944.29 14.45 9.87 140.84 212.98 416.20 938.29 919.15 49.02 3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3697.46 3500.00 3384.67 3296.64 17.84 10.93 143.56 264.67 516.61 1152.52 1130.81 53.09 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3800.90 3706.30 21.26 11.59 147.35 297.42 580.21 1340.25 1316.50 56.44 4159.34 3900.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 24.67 11.66 151.64 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.39 11.74 153.25 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4395.08 4300.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1625.82 1599.10 60.84 4825.15 4500.00 4595.08 4500.00 27.24 12.07 157.08 304.00 593.00 1679.86 1653.22 63.07 5030.70 4700.00 4795.08 4700.00 27.48 12.16 157.58 304.00 593.00 1698.98 1672.42 63.96														
3466.52 3300.00 3132.39 3054.94 15.57 10.23 141.62 231.71 452.58 1012.45 992.43 50.57 3581.99 3400.00 3255.85 3172.42 16.70 10.59 142.53 249.06 486.28 1083.90 1063.02 51.90 3697.46 3500.00 3384.67 3296.64 17.84 10.93 143.56 264.67 516.61 1152.52 1130.81 53.09 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3800.90 3706.30 21.26 11.59 147.35 297.42 580.21 1340.25 1316.50 56.44 4159.34 3900.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 23.56 11.60 150.43 304.00 593.00 1449.70 1423.40 55.13 4390.21 4100.00 4195.08 4100.00 24.67 11.66 151.64 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.39 11.74 153.25 304.00 593.00 1549.20 1522.46 57.94 4612.89 4300.00 4395.08 4300.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1625.82 1599.10 60.84 4825.15 4500.00 4595.08 4500.00 26.50 11.90 155.60 304.00 593.00 1679.86 1653.22 63.07 5030.70 4700.00 4795.08 4700.00 27.24 12.07 157.08 304.00 593.00 1698.98 1672.42 63.96														
3581.99       3400.00       3255.85       3172.42       16.70       10.59       142.53       249.06       486.28       1083.90 1063.02       51.90         3697.46       3500.00       3384.67       3296.64       17.84       10.93       143.56       264.67       516.61       1152.52 1130.81       53.09         3812.93       3600.00       3518.68       3427.34       18.97       11.22       144.71       278.18       542.85       1218.18 1195.71       54.21         3928.40       3700.00       3657.56       3564.10       20.12       11.44       145.97       289.22       564.29       1280.78 1257.63       55.32         4043.87       3800.00       3800.90       3706.30       21.26       11.59       147.35       297.42       580.21       1340.25 1316.50       56.44         4159.34       3900.00       3948.16       3853.14       22.41       11.64       148.85       302.44       589.96       1396.56       1372.34       57.67         4274.81       4000.00       4095.08       4000.00       23.56       11.60       150.43       304.00       593.00       1449.70 1423.40       55.13         4390.21       4100.00       4095.08       4200.00       25.39														
3697.46 3500.00 3384.67 3296.64 17.84 10.93 143.56 264.67 516.61 1152.52 1130.81 53.09 3812.93 3600.00 3518.68 3427.34 18.97 11.22 144.71 278.18 542.85 1218.18 1195.71 54.21 3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3800.90 3706.30 21.26 11.59 147.35 297.42 580.21 1340.25 1316.50 56.44 4159.34 3900.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67 4274.81 4000.00 4095.08 4000.00 23.56 11.60 150.43 304.00 593.00 1449.70 1423.40 55.13 4390.21 4100.00 4195.08 4100.00 24.67 11.66 151.64 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.39 11.74 153.25 304.00 593.00 1501.61 1474.89 56.21 4612.89 4300.00 4395.08 4300.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1625.82 1599.10 60.84 4825.15 4500.00 4595.08 4500.00 27.24 12.07 157.08 304.00 593.00 1679.86 1653.22 63.07 5030.70 4700.00 4795.08 4700.00 27.48 12.16 157.58 304.00 593.00 1698.98 1672.42 63.96														
3812.93       3600.00       3518.68       3427.34       18.97       11.22       144.71       278.18       542.85       1218.18 1195.71       54.21         3928.40       3700.00       3657.56       3564.10       20.12       11.44       145.97       289.22       564.29       1280.78 1257.63       55.32         4043.87       3800.00       3800.90       3706.30       21.26       11.59       147.35       297.42       580.21       1340.25 1316.50       56.44         4159.34       3900.00       3948.16       3853.14       22.41       11.64       148.85       302.44       589.96       1396.56 1372.34       57.67         4274.81       4000.00       4095.08       4000.00       23.56       11.60       150.43       304.00       593.00       1449.70 1423.40       55.13         4390.21       4100.00       4195.08       4100.00       24.67       11.66       151.64       304.00       593.00       1501.61 1474.89       56.21         4503.13       4200.00       4295.08       4200.00       25.39       11.74       153.25       304.00       593.00       1590.47 1563.73       59.48         4720.06       4400.00       4495.08       4300.00       26.50       11.90	0001.00	0400.00	0200.00	0112.12	10.70									
3812.93       3600.00       3518.68       3427.34       18.97       11.22       144.71       278.18       542.85       1218.18 1195.71       54.21         3928.40       3700.00       3657.56       3564.10       20.12       11.44       145.97       289.22       564.29       1280.78 1257.63       55.32         4043.87       3800.00       3800.90       3706.30       21.26       11.59       147.35       297.42       580.21       1340.25 1316.50       56.44         4159.34       3900.00       3948.16       3853.14       22.41       11.64       148.85       302.44       589.96       1396.56 1372.34       57.67         4274.81       4000.00       4095.08       4000.00       23.56       11.60       150.43       304.00       593.00       1449.70 1423.40       55.13         4390.21       4100.00       4195.08       4100.00       24.67       11.66       151.64       304.00       593.00       1501.61 1474.89       56.21         4503.13       4200.00       4295.08       4200.00       25.39       11.74       153.25       304.00       593.00       1590.47 1563.73       59.48         4720.06       4400.00       4495.08       4300.00       26.50       11.90	3697.46	3500.00	3384.67	3296.64	17.84	10.93	143.56	264.67	516.61	1152.52 1	130.81	53.09		
3928.40 3700.00 3657.56 3564.10 20.12 11.44 145.97 289.22 564.29 1280.78 1257.63 55.32 4043.87 3800.00 3800.90 3706.30 21.26 11.59 147.35 297.42 580.21 1340.25 1316.50 56.44 159.34 3900.00 3948.16 3853.14 22.41 11.64 148.85 302.44 589.96 1396.56 1372.34 57.67   4274.81 4000.00 4095.08 4000.00 23.56 11.60 150.43 304.00 593.00 1449.70 1423.40 55.13 4390.21 4100.00 4195.08 4100.00 24.67 11.66 151.64 304.00 593.00 1501.61 1474.89 56.21 4503.13 4200.00 4295.08 4200.00 25.39 11.74 153.25 304.00 593.00 1549.20 1522.46 57.94 4612.89 4300.00 4395.08 4300.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1625.82 1599.10 60.84 4825.15 4500.00 4595.08 4500.00 26.91 11.98 156.43 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4695.08 4600.00 27.24 12.07 157.08 304.00 593.00 1698.98 1672.42 63.96														
4043.87       3800.00       3800.90       3706.30       21.26       11.59       147.35       297.42       580.21       1340.25 1316.50       56.44         4159.34       3900.00       3948.16       3853.14       22.41       11.64       148.85       302.44       589.96       1396.56 1372.34       57.67         4274.81       4000.00       4095.08       4000.00       23.56       11.60       150.43       304.00       593.00       1449.70 1423.40       55.13         4390.21       4100.00       4195.08       4100.00       24.67       11.66       151.64       304.00       593.00       1501.61       1474.89       56.21         4503.13       4200.00       4295.08       4200.00       25.39       11.74       153.25       304.00       593.00       1549.20 1522.46       57.94         4612.89       4300.00       4395.08       4300.00       25.99       11.82       154.55       304.00       593.00       1590.47 1563.73       59.48         4720.06       4400.00       4495.08       4400.00       26.50       11.90       155.60       304.00       593.00       1625.82 1599.10       60.84         4825.15       4500.00       4595.08       4500.00       26.91									564.29	1280.78 1	257.63			
4159.34       3900.00       3948.16       3853.14       22.41       11.64       148.85       302.44       589.96       1396.56 1372.34       57.67         4274.81       4000.00       4095.08       4000.00       23.56       11.60       150.43       304.00       593.00       1449.70 1423.40       55.13         4390.21       4100.00       4195.08       4100.00       24.67       11.66       151.64       304.00       593.00       1501.61       1474.89       56.21         4503.13       4200.00       4295.08       4200.00       25.39       11.74       153.25       304.00       593.00       1549.20       1522.46       57.94         4612.89       4300.00       4395.08       4300.00       25.99       11.82       154.55       304.00       593.00       1590.47       1563.73       59.48         4720.06       4400.00       4495.08       4400.00       26.50       11.90       155.60       304.00       593.00       1625.82       1599.10       60.84         4825.15       4500.00       4595.08       4500.00       26.91       11.98       156.43       304.00       593.00       1655.53       1628.84       62.03         4928.58       4600.00       <						11.59	147.35		580.21					
4274.81       4000.00       4095.08       4000.00       23.56       11.60       150.43       304.00       593.00       1449.70 1423.40       55.13         4390.21       4100.00       4195.08       4100.00       24.67       11.66       151.64       304.00       593.00       1501.61 1474.89       56.21         4503.13       4200.00       4295.08       4200.00       25.39       11.74       153.25       304.00       593.00       1549.20 1522.46       57.94         4612.89       4300.00       4395.08       4300.00       25.99       11.82       154.55       304.00       593.00       1590.47 1563.73       59.48         4720.06       4400.00       4495.08       4400.00       26.50       11.90       155.60       304.00       593.00       1625.82 1599.10       60.84         4825.15       4500.00       4595.08       4500.00       26.91       11.98       156.43       304.00       593.00       1655.53 1628.84       62.03         4928.58       4600.00       4695.08       4600.00       27.24       12.07       157.08       304.00       593.00       1679.86 1653.22       63.07         5030.70       4700.00       4795.08       4700.00       27.48       12.16						11.64	148.85	302.44		1396.56 1	372.34	57.67		
4390.21       4100.00       4195.08       4100.00       24.67       11.66       151.64       304.00       593.00       1501.61       1474.89       56.21         4503.13       4200.00       4295.08       4200.00       25.39       11.74       153.25       304.00       593.00       1549.20       1522.46       57.94         4612.89       4300.00       4395.08       4300.00       25.99       11.82       154.55       304.00       593.00       1590.47       1563.73       59.48         4720.06       4400.00       4495.08       4400.00       26.50       11.90       155.60       304.00       593.00       1625.82       1599.10       60.84         4825.15       4500.00       4595.08       4500.00       26.91       11.98       156.43       304.00       593.00       1655.53       1628.84       62.03         4928.58       4600.00       4695.08       4600.00       27.24       12.07       157.08       304.00       593.00       1679.86       1653.22       63.07         5030.70       4700.00       4795.08       4700.00       27.48       12.16       157.58       304.00       593.00       1698.98       1672.42       63.96														
4503.13 4200.00 4295.08 4200.00 25.39 11.74 153.25 304.00 593.00 1549.20 1522.46 57.94 4612.89 4300.00 4395.08 4300.00 25.99 11.82 154.55 304.00 593.00 1590.47 1563.73 59.48 4720.06 4400.00 4495.08 4400.00 26.50 11.90 155.60 304.00 593.00 1625.82 1599.10 60.84 4825.15 4500.00 4595.08 4500.00 26.91 11.98 156.43 304.00 593.00 1655.53 1628.84 62.03 4928.58 4600.00 4695.08 4600.00 27.24 12.07 157.08 304.00 593.00 1679.86 1653.22 63.07 5030.70 4700.00 4795.08 4700.00 27.48 12.16 157.58 304.00 593.00 1698.98 1672.42 63.96														
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4720.06       4400.00       4495.08       4400.00       26.50       11.90       155.60       304.00       593.00       1625.82 1599.10       60.84         4825.15       4500.00       4595.08       4500.00       26.91       11.98       156.43       304.00       593.00       1655.53 1628.84       62.03         4928.58       4600.00       4695.08       4600.00       27.24       12.07       157.08       304.00       593.00       1679.86 1653.22       63.07         5030.70       4700.00       4795.08       4700.00       27.48       12.16       157.58       304.00       593.00       1698.98 1672.42       63.96														
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4928.58 4600.00 4695.08 4600.00 27.24 12.07 157.08 304.00 593.00 1679.86 1653.22 63.07 5030.70 4700.00 4795.08 4700.00 27.48 12.16 157.58 304.00 593.00 1698.98 1672.42 63.96			4805.55	4500.00	00.04	44.00	450.40	004.00	E00.00	4055 50 4	600.04	60.00		
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L E404 DO 4000 DO 400E OO 4000 DO 97 GE 19 96 167 D9 904 DO 609 DO 1749 D4 1696 67 64 79												64.72		
0101100 1000100 1000100 27101														-
5232.35 4900.00 4995.08 4900.00 27.73 12.35 158.16 304.00 593.00 1722.14 1695.78 65.34	5232.35	4900.00	4995.08	4900.00	21.13	12.30	100.10	304.00	093.00	1122.14	080.70	00.04		1
5332.46 5000.00 5095.08 5000.00 27.75 12.45 158.26 304.00 593.00 1726.34 1700.12 65.83	E222 46	5000.00	EU0E 00	5000.00	27 75	12 /5	158 26	304.00	503 00	1726 34 1	700 12	65.83		
5332.46 5000.00 5095.08 5000.00 27.75 12.45 158.26 304.00 593.00 1726.34 1700.12 65.83 5432.46 5100.00 5195.08 5100.00 27.76 12.55 114.75 304.00 593.00 1726.66 1689.24 46.15														
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Company: Field:

Anadarko-Kerr-McGee

Date: 6/5/2008 UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

NBU 1022-24I PAD Reference Site:

NBU 1022-24G3S Reference Well:

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Time: 08:43:22

Well: NBU 1022-24G3S, Grid North

SITE 4994.0

Db: Sybase

NBU 1022-24I PAD NBU 1022-24I1S Well:

Reference Wellpath: 1

Well: Wellpath:	1 V0 Plan	2-24115 : Plan #1 V	<b>'</b> 1						Inter-Site Error:	0.00	ft
Refe	rence	Of	fset	Semi-M	ajor Axis		Offset 1	Location	Ctr-Ctr Edge S	Separation	
MD	TVD	MD	TVD	Ref	Offset	TFO-HS		East	Distance Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft ft		
5732.46	5400.00	5495.08	5400.00	27.92	12.87	114.75	304.00	593.00	1726.66 1688.73	45.52	
5832.46	5500.00	5595.08	5500.00	27.98	12.98	114.75	304.00	593.00	1726.66 1688.55	45.30	
5932.46	5600.00	5695.08	5600.00	28.04	13.09	114.75	304.00	593.00	1726.66 1688.36	45.08	
6032.46	5700.00	5795.08	5700.00	28.10	13.21	114.75	304.00	593.00	1726.66 1688.17	44.86	
6132.46	5800.00	5895.08	5800.00	28.16	13.33	114.75	304.00	593.00	1726.66 1687.98	44.64	
6232.46	5900.00	5995.08	5900.00	28.23	13.45	114.75	304.00	593.00	1726.66 1687.78	44.42	
6332.46	6000.00	6095.08	6000.00	28.29	13.57	114.75	304.00	593.00	1726.66 1687.59	44.19	
6432.46	6100.00	6195.08	6100.00	28.36	13.70	114.75	304.00	593.00	1726.66 1687.38	43.96	
6532.46	6200.00	6295.08	6200.00	28.43	13.82	114.75	304.00	593.00	1726.66 1687.18	43.73	
6632.46	6300.00	6395.08	6300.00	28.50	13.95	114.75	304.00	593.00	1726.66 1686.97	43.50	
6732.46	6400.00	6495.08	6400.00	28.57	14.08	114.75	304.00	593.00	1726.66 1686.75	43.27	
6832.46	6500.00	6595.08	6500.00	28.64	14.22	114.75	304.00	593.00	1726.66 1686.54	43.03	
6932.46	6600.00	6695.08	6600.00	28.72	14.35	114.75	304.00	593.00	1726.66 1686.32	42.80	
7032.46	6700.00	6795.08	6700.00	28.79	14.49	114.75	304.00	593.00	1726.66 1686.09	42.56	
7132.46	6800.00	6895.08	6800.00	28.87	14.63	114.75	304.00	593.00	1726.66 1685.87	42.33	
7232.46	6900.00	6995.08	6900.00	28.95	14.77	114.75	304.00	593.00	1726.66 1685.64	42.09	
7332.46	7000.00	7095.08	7000.00	29.02	14.91	114.75	304.00	593.00	1726.66 1685.41	41.85	
7432.46	7100.00	7195.08	7100.00	29.11	15.05	114.75	304.00	593.00	1726.66 1685.17	41.62	
7532.46	7200.00	7295.08	7200.00	29.19		114.75	304.00	593.00	1726.66 1684.93	41.38	
7632.46	7300.00	7395.08	7300.00	29.27		114.75	304.00	593.00	1726.66 1684.69	41.14	
7732.46	7400.00	7495.08	7400.00	29.35	15.49	114.75	304.00	593.00	1726.66 1684.45	40.91	
7832.46	7500.00	7595.08	7500.00	29.44		114.75	304.00	593.00	1726.66 1684.20	40.67	
7932.46	7600.00	7695.08	7600.00	29.53		114.75	304.00	593.00	1726.66 1683.96	40.43	
8032.46	7700.00	7795.08	7700.00	29.61	15.94	114.75	304.00	593.00	1726.66 1683.70	40.20	

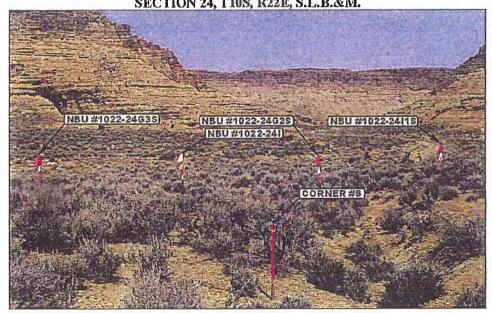
### Kerr-McGee Oil & Gas Onshore LP NBU #1022-24I, 1022-24G2S, #1022-24I1S & #1022-24G3S SECTION 24, T10S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 11.2 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST: TURN LEFT AND PROCEED IN AN EASTERLY. THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 9.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST: TURN LEFT AND PROCEED IN AN EASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 2.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN RIGHT AND PROCEED IN A NORTHEASTERLY, THEN SOUTHERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH: TURN RIGHT AND PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 4.4 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 1.2 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD FOR THE NBU #1022-24B TO THE NORTHWEST; FOLLOW ROAD FLAGS IN A NORTHWESTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 4.4 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE EAST; FOLLOW ROAD FLAGS IN A EASTERLY DIRECTION APPROXIMATELY 67' TO THE PROPOSED LOCATION.

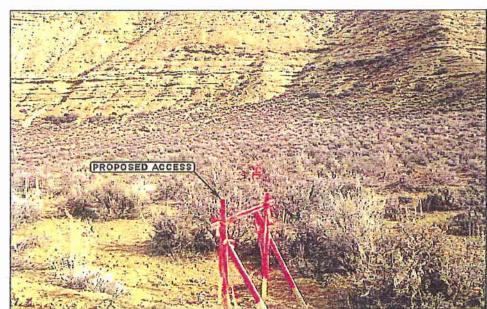
TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 66.4 MILES.

## Kerr-McGee Oil & Gas Onshore LP NBU #1022-24I, 1022-24G2S,

#1022-24I1S & #1022-24G3S LOCATED IN UINTAH COUNTY, UTAH SECTION 24, T10S, R22E, S.L.B.&M.



CAMERA ANGLE: NORTHEASTERLY



CAMERA ANGLE: EASTERLY



LOCATION	PHOTOS	12 MONTH	04 DAY	06 YEAR	рното
TAKEN BY: G.O.	DRAWN BY: A.	A REV	: 05-12-	08 Z.L.	

### Kerr-McGee Oil and Gas Onshore LP

NBU #1022-24I, 1022-24G2S, #1022-24I1S & #1022-24G3S PIPELINE ALIGNMENT

LOCATED IN UINTAH COUNTY, UTAH SECTION 24, T10S, R22E, S.L.B.&M.



PHOTO: VIEW FROM TIE-IN POINT

CAMERA ANGLE: EASTERLY

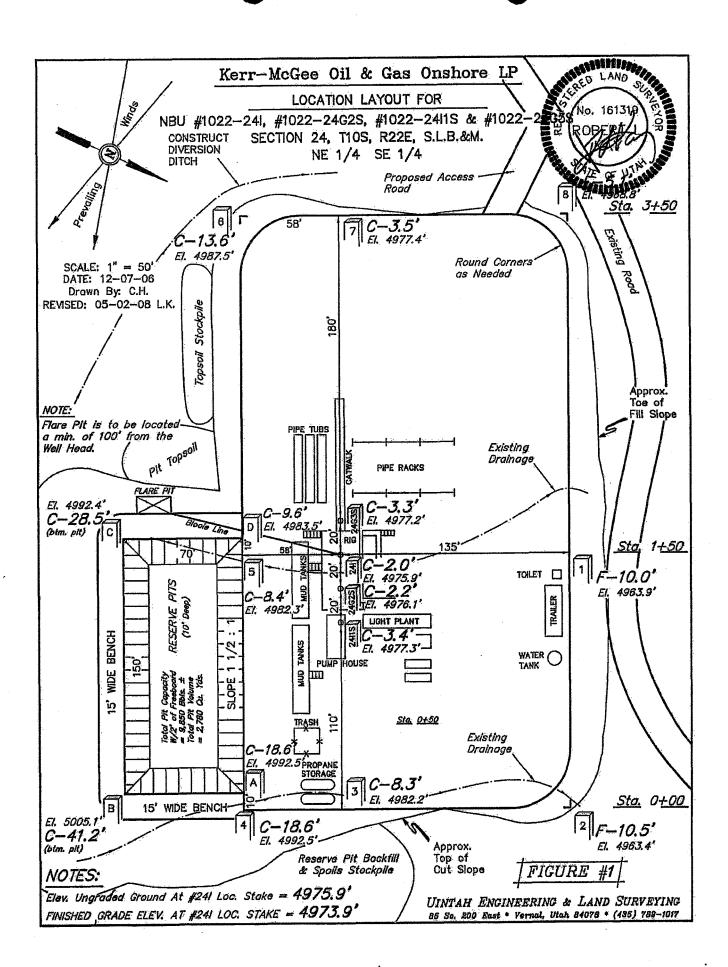


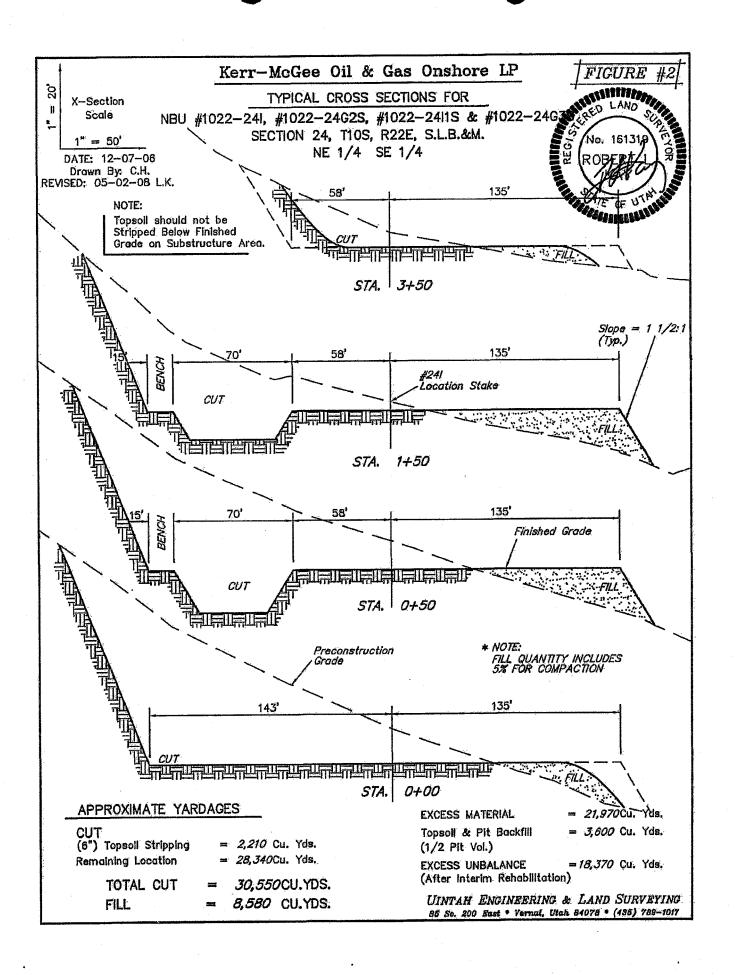
Uintah Engineering & Land Surveying S South 200 East Vernal, Utah 84078 435-789-1017 uels@uelsinc.com

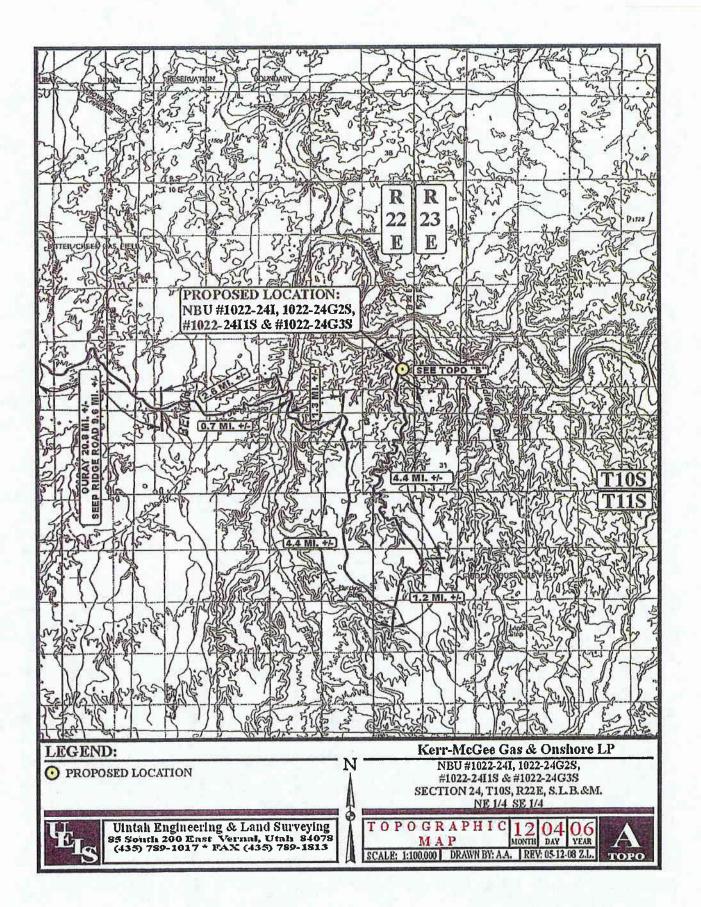
PIPELINE PHOTOS

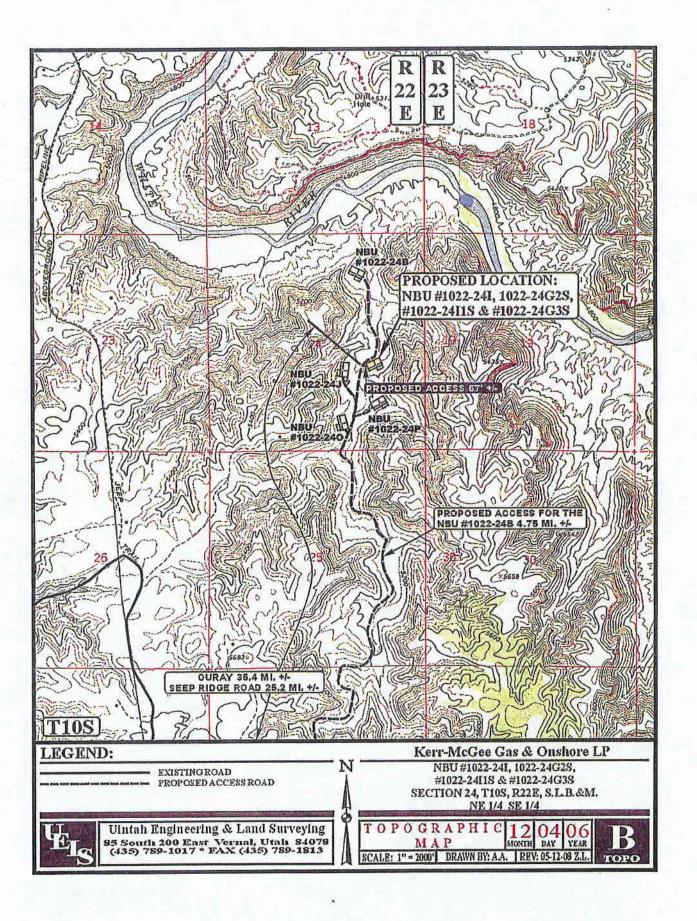
TAKEN BY: G.O. | DRAWN BY: A.A. | REV: 05-12-08 Z.L.

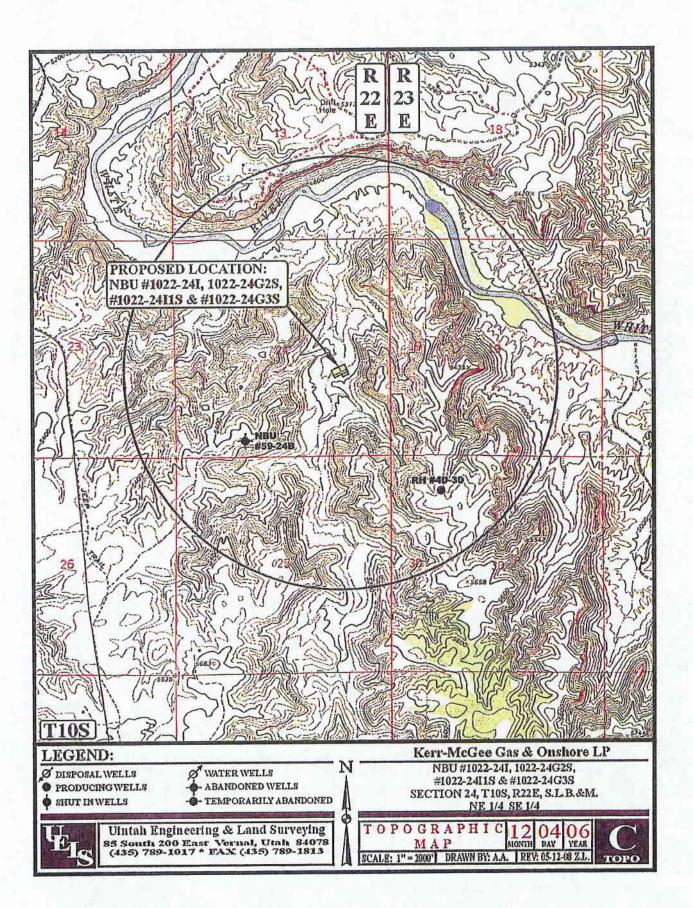
РНОТО

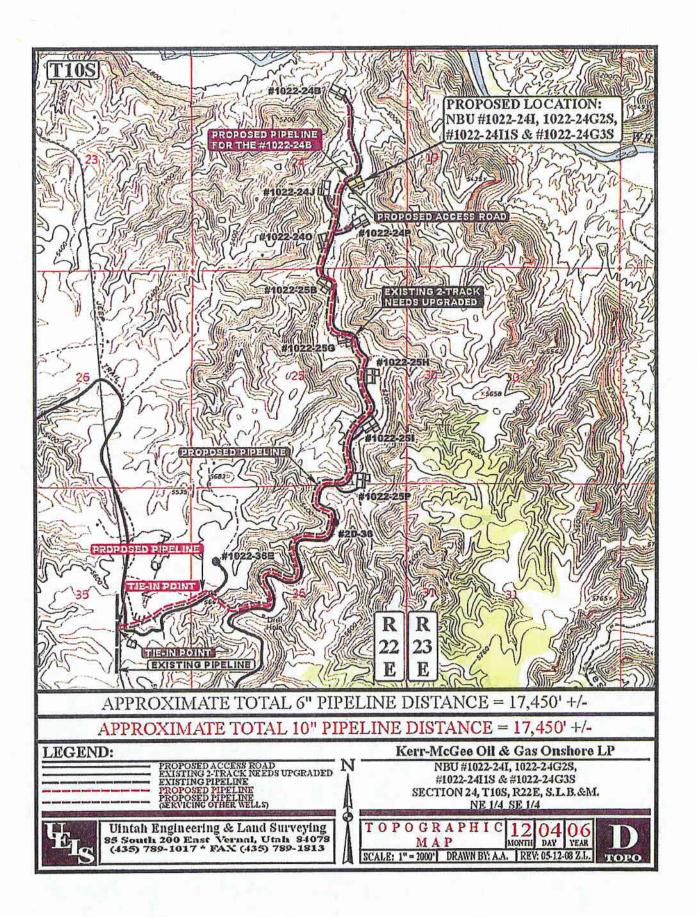






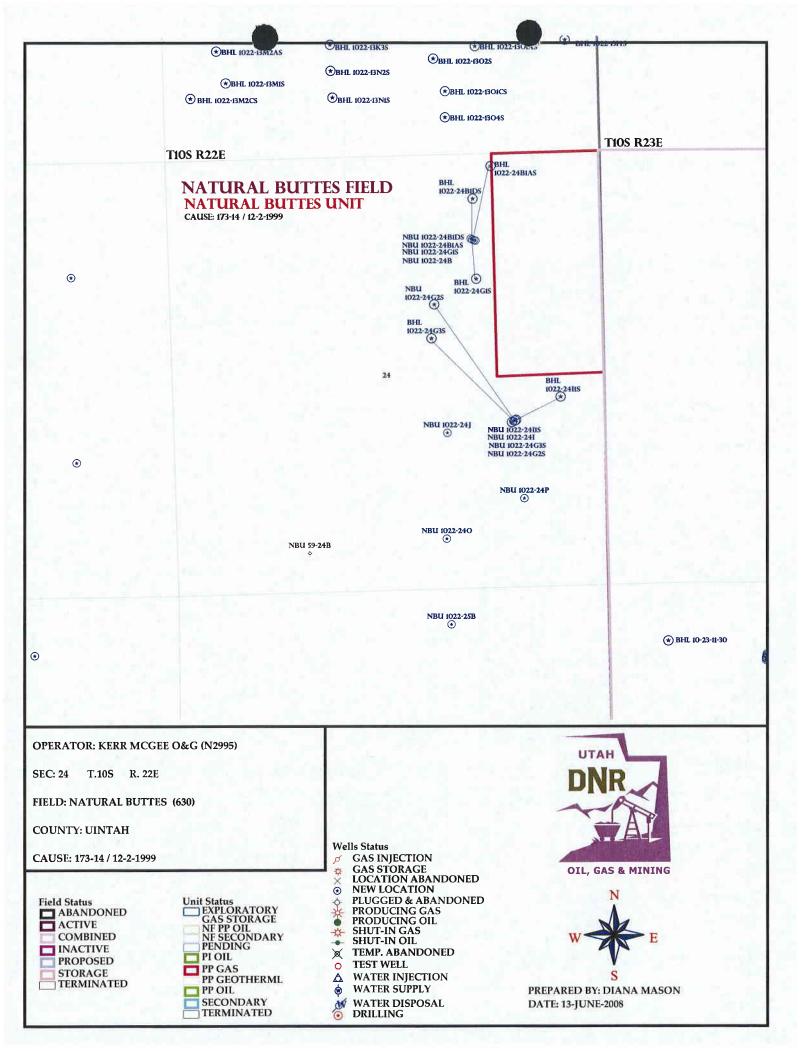






## WORKSHEET APPLICATION FOR PERMIT TO DRILL

API NO. ASSIG	SNED: 43-04	7-40142
PHONE NUMBER:	720-929-622	26
INSPECT LOCATN	BY: /	
	·	1
Tech Review	Initials	Date
Engineering	DRO	7/29/06
Geology	7,00	
Surface		
PROPOSED FORMA	rion: ws	MVD
COALBED METHANI	E WELL? NO	
R649-2-3.  : NATURAL BUTTES  R649-3-2. Gener Siting: 460 From Qr  R649-3-3. Excep  Drilling Unit  Board Cause No: Eff Date: Siting: 400 Fr	173-14 12-2-19	99 Comes Trees
	Basis	
	PHONE NUMBER:  INSPECT LOCATN  Tech Review  Engineering  Geology  Surface  PROPOSED FORMAY  COALBED METHANI  FION AND SITING:  R649-2-3.  : NATURAL BUTTES  R649-3-2. Gener  Siting: 460 From Quantity  R649-3-3. Except  Drilling Unit  Board Cause No:  Eff Date:  Siting: 469-3-11. Direct  O2-14-046	Engineering  Geology  Surface  PROPOSED FORMATION: WSI COALBED METHANE WELL? NO  FION AND SITING:  R649-2-3.  NATURAL BUTTES  R649-3-2. General Siting: 460 From Qtr/Qtr & 920'  R649-3-3. Exception  Drilling Unit Board Cause No: 173.14 Eff Date: 12-2-17 Siting: 460 From Law Sing R649-3-11. Directional Dri



## **Application for Permit to Drill** Statement of Basis

Utah Division of Oil, Gas and Mining 7/10/2008

Page 1

APD No

API WellNo

Status

Well Type

**Surf Ownr** 

**CBM** 

817

43-047-40142-00-00

GW

S

No

KERR-MCGEE OIL & GAS ONSHORE, L.P. Surface Owner-APD

Well Name NBU 1022-24G3S

Unit

NATURAL BUTTES

Field

NATURAL BUTTES

Type of Work

Location

NESE 24 10S 22E S 2037 FSL 1184 FEL GPS Coord (UTM) 638221E 4421336N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 1,300' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 5,000'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 24. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

**Brad Hill** 

7/10/2008

**APD** Evaluator

Date / Time

#### **Surface Statement of Basis**

The general area is Archy Wash located south of the White River in Uintah County, Utah. Vernal, Utah is approximately 37 miles to the northwest and Bonanza, Utah approximately 12 miles to the northwest. Archy Bench is approximately 1 mile to the west and West Fork of Saddle Tree Draw 1-2 miles to the east. The topography in the area is characterized by steep sidehills bordering winding narrow to moderately narrow draws. Many side-slopes are rimmed with sandstone bedrock forming vertical cliffs. Numerous small side draws lead away from the main divides. All drainages are ephemeral only flowing during winter snowmelt and following intense summer rainstorms. Roads are commonly constructed in the bottom of the washes and are subject to washing out following runoff events. Erosion from side-slopes is moderate. No streams seeps or springs are known to exist in the area.

The proposed NBU 1022-24I gas well pad is approximately 36 road miles south of Ouray, Utah accessed by Uintah County roads to within approximately 67 feet of the site where a new road will be constructed to the location.

This location was originally staked for 1 well, the NBU 1022-24I. This well has not yet been drilled. Three additional wells have been added. The location is in the bottom of Archy Wash on a northeast side-slope of a high near vertical ridge, which begins near the southeast corner of the location. Several washes intersect the location and are planned to be diverted around the southwest end. The White River is approximately 1 mile down drainage.

Ben Williams representing the UDWR stated the area is classified as yearlong critical habitat for antelope. He stated that the lack of water not forage is the limiting factor affecting the herd in the area. He recommended no restrictions for antelope. No other wildlife is expected to be significantly affected. He gave Jim Davis of SITLA and Carroll Estes of Kerr McGee a copy of his wildlife evaluation and a UDWR recommended seed mix to be used when re-vegetating the location.

Floyd Bartlett

2/14/2007

**Onsite Evaluator** 

Date / Time

# **Application for Permit to Drill Statement of Basis**

7/10/2008

#### Utah Division of Oil, Gas and Mining

Page 2

Conditions of Approval	/ Application for	<u>Permit to Drill</u>
------------------------	-------------------	------------------------

Category

Condition

Pits

A synthetic liner with a minimum thickness of 20 mils with a felt subliner shall be

properly installed and maintained in the reserve pit.

Surface

Drainages adjacent to the proposed pad shall be diverted around the location.

Surface

The reserve pit shall be fenced upon completion of drilling operations.

# Utah Division of Oil, Gas and Mining

**Operator** 

KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name

NBU 1022-24G3S

**API Number** 

43-047-40142-0

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APD No 817

Field/Unit NATURAL BUTTES

Location: 1/4,1/4 NESE

Sec 24

**Tw** 10S

Rng 22E

2037 FSL 1184 FEL

GPS Coord (UTM)

**Surface Owner** 

### **Participants**

Floyd Bartlett and David Hackford (DOGM), Jim Davis (SITLA), Carroll Estes, Tony Kznick, and Clay Einerson (Kerr McGee), David Kay (Uintah Engineering and Land Surveying), and Ben Williams (UDWR)

### Regional/Local Setting & Topography

The general area is Archy Wash located south of the White River in Uintah County, Utah. Vernal, Utah is approximately 37 miles to the northwest and Bonanza, Utah approximately 12 miles to the northeast. Archy Bench is approximately 1 mile to the west and West Fork of Saddle Tree Draw 1-2 miles to the east. The topography in the area is characterized by steep sidehills bordering winding narrow to moderately narrow draws. Many side-slopes are rimmed with sandstone bedrock forming vertical cliffs. Numerous small side draws lead away from the main divides. All drainages are ephemeral only flowing during winter snowmelt and following intense summer rainstorms. Roads are commonly constructed in the bottom of the washes and are subject to washing out following runoff events. Erosion from side-slopes is moderate. No streams seeps or springs are known to exist in the area.

The proposed NBU 1022-24I gas well pad is approximately 36 road miles south of Ouray, Utah accessed by Uintah County roads to within approximately 67 feet of the site where a new road will be constructed to the location.

This location was originally staked for 1 well, the NBU 1022-24I. This well has not yet been drilled. Three additional wells have been added. The location is in the bottom of Archy Wash on a northeast side-slope of a high near vertical ridge, which begins near the southeast corner of the location. Several washes intersect the location and are planned to be diverted around the southwest end. The White River is approximately 1 mile down drainage.

### Surface Use Plan

**Current Surface Use** 

Grazing

Recreational

Wildlfe Habitat

New Road

Miles Well Pad

**Src Const Material** 

**Surface Formation** 

0.01

Width 278

Length 350

Onsite

UNTA

Ancillary Facilities N

## Waste Management Plan Adequate?

### **Environmental Parameters**

Affected Floodplains and/or Wetland N

#### Flora / Fauna

Snow covered the vegetation on the area. Identifiable vegetation consisted of big sagebrush, greasewood, spiny hopsage and broom snakeweed. Vegetation is sparse.

Antelope, rabbits, coyotes, and small mammals, birds and raptors.

Soil Type and Characteristics

**Erosion Issues** N

**Sedimentation Issues N** 

Site Stability Issues N

## Drainage Diverson Required Y

Diversion is needed around southwest end of location.

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run?

Paleo Potental Observed?

Cultural Survey Run? Y

**Cultural Resources?** 

### Reserve Pit

Site-Specific Factors		Site 1	Ranking	
Distance to Groundwater (feet)	100 to 200		5	
Distance to Surface Water (feet)	>1000		0	
Dist. Nearest Municipal Well (ft)	>5280		0	
Distance to Other Wells (feet)	<300		20	
Native Soil Type	Mod permeability		10	
Fluid Type	Fresh Water		5	
Drill Cuttings	Normal Rock		0	
Annual Precipitation (inches)	10 to 20		5	
Affected Populations	<10		0	
Presence Nearby Utility Conduits	Not Present		0	
		Final Score	45	1 Sensitivity Level

### Characteristics / Requirements

The proposed reserve pit is 70' x 150' x 10' deep located in a cut on the southeast corner of the location. A 20 mil liner with a felt sub-liner is planned by Kerr McGee.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 20 Pit Underlayment Required? Y

## **Other Observations / Comments**

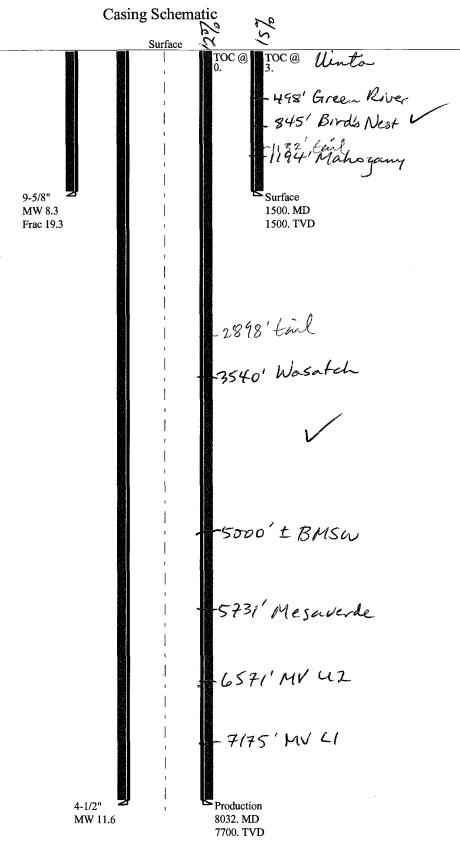
The area was covered with snow. ATV's were used to access the site.

Floyd Bartlett

2/14/2007

**Evaluator** 

Date / Time



Well name:

2008-07 Kerr McGee NBU 1022-24G3S

Operator:

Kerr McGee Oil & Gas Onshore L.P.

String type:

Production

Project ID:

43-047-40142

Location:

Uintah County, Utah

Minimum design factors: **Environment:** 

Collapse

Mud weight: Internal fluid density:

Design parameters:

11.600 ppg 2.300 ppg Collapse: Design factor

1.125

H2S considered?

Surface temperature:

No 75 °F

Bottom hole temperature: Temperature gradient:

183 °F 1.40 °F/100ft

Minimum section length: 1,500 ft

Burst:

Design factor

1.00

1.80 (J)

1.80 (J)

1.60 (J)

Cement top:

Surface

Burst

Max anticipated surface

pressure: Internal gradient: Calculated BHP

2,946 psi 0.220 psi/ft 4,640 psi

No backup mud specified.

Tension:

**Buttress:** 

Premium: Body yield:

8 Round STC:

8 Round LTC:

1.50 (J) 1.50 (B)

Tension is based on buoyed weight. Neutral point: 6,697 ft

Directional Info - Build & Hold

Kick-off point 1560 ft Departure at shoe: 1416 ft

3 °/100ft Maximum dogleg: 0° Inclination at shoe:

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (Ibs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8032	4.5	11.60	1-80	LT&C	7700	8032	3.875	700.9
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	3720	6360	1.710	4640	7780	1.68	74	212	2.87 J

Prepared

by:

Helen Sadik-Macdonald

Div of Oil, Gas & Minerals

Phone: (801) 538-5357 FAX: (801) 359-3940

Date: July 16,2008 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 7700 ft, a mud weight of 11.6 ppg An internal gradient of .119 psi/ft was used for collapse from TD Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:

2008-07 Kerr McGee NBU 1022-24G3S

Minimum design factors:

Operator:

Kerr McGee Oil & Gas Onshore L.P.

String type:

Surface

Project ID:

43-047-40142

Location:

Uintah County, Utah

Design parameters:

Collapse

Mud weight: Design is based on evacuated pipe.

8.330 ppg

Collapse: Design factor

1.125

**Environment:** 

H2S considered?

No 75 °F

Surface temperature: Bottom hole temperature:

96 °F

1.40 °F/100ft Temperature gradient: Minimum section length: 1,300 ft

Burst:

Design factor

1.00 Cement top: 3 ft

**Burst** 

Max anticipated surface

No backup mud specified.

pressure: Internal gradient: 1,320 psi

Calculated BHP

0.120 psi/ft

1,500 psi

Buttress:

Tension: 8 Round STC:

1.80 (J) 8 Round LTC: 1.80 (J) 1.60 (J)

Premium: 1.50 (J)

1.50 (B) Body yield:

Tension is based on buoyed weight. Neutral point: 1,315 ft

Non-directional string.

Re subsequent strings:

Next setting depth: Next mud weight:

7,700 ft 11.600 ppg 4,640 psi

Next setting BHP: Fracture mud wt: Fracture depth: Injection pressure:

19.250 ppg 1,500 ft 1,500 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	1500	9.625	36.00	J-55	LT&C	1500	1500	8.796	651
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	649	2020	3.112	1500	3520	2.35	47	` 453´	9.57 J

Prepared

by:

Helen Sadik-Macdonald Div of Oil, Gas & Minerals Phone: (801) 538-5357 FAX: (801) 359-3940

Date: July 16,2008 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1500 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

# **BOPE REVIEW**

# Kerr-McGee NBU 1022-24G3S API 43-047-40142

INPUT				
Well Name	Kerr-McGee NBU 1	022-24G3S API 43-	047-40142	
	String 1	String 2		
Casing Size (")	9 5/8	4 1/2		
Setting Depth (TVD)	1500	7700		
Previous Shoe Setting Depth (TVD)	20	1500		
lax Mud Weight (ppg)	8.4	11.6		
OPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	7780		
perators Max Anticipated Pressure (psi)	4774	11.9	ppg	

Calculations	String 1	9 5/8 '	•	
Max BHP [psi]	.052*Setting Depth*MW =	655		<del></del>
		1	BOPE Adequate	e For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	475	YES 🗸	Air Drill to surface shoe with diverter
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	325	YES	
			*Can Full Expe	cted Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth) =	330	NO K	lessonable - No experted Pressure
Required Casing/BOPE Test	Pressure	1500		
*Max Pressure Allowed @ P	revious Casing Shoe =	20	psi)	*Assumes 1psi/ft frac gradient

Calculations	String 2	4 1/2		
Max BHP [psi]	.052*Setting Depth*MW =	4645		
			BOPE Adeq	quate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	3721	YES	\$ V
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	2951	YES	\$ <u></u> _
			*Can Full Ex	Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth) =	3281	€ NO	leasonable
Required Casing/BOPE Test	Pressure	5000	psi /	
*Max Pressure Allowed @ Pi	revious Casing Shoe =	/1500	psi 🔾	*Assumes 1psi/ft frac gradient

# **United States Department of the Interior**

# BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

June 16, 2008

### Memorandum

To:

Assistant District Manager Minerals, Vernal District

From:

Michael Coulthard, Petroleum Engineer

Subject:

2008 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2008 within the Natural Buttes Unit, Uintah County, Utah.

# LOCATION WELL NAME (Proposed PZ MesaVerde) 43-047-40136 NBU 921-20IT Sec 20 T09S R21E 1902 FSL 0822 FEL 43-047-40135 NBU 921-15MT Sec 15 T09S R21E 0697 FSL 0406 FWL 43-047-40134 NBU 922-31GT Sec 31 T09S R22E 1664 FNL 1349 FEL 43-047-40133 NBU 922-32CT Sec 32 T09S R22E 0809 FNL 2154 FWL (Proposed PZ Wasatch/MesaVerde) 43-047-40129 NBU 1022-24B1AS Sec 24 T10S R22E 1052 FNL 1583 FEL BHL Sec 24 T10S R22E 0150 FNL 1375 FEL 43-047-40130 NBU-1022-24B1DS Sec 24-T10S-R22E 1026 FNL-1637 FEL BHL Sec 24 T10S R22E 0540 FNL 1605 FEL 43-047-40131 NBU 1022-24G1S Sec 24 T10S R22E 1044 FNL 1601 FEL BHL Sec 24 T10S R22E 1515 FNL 1580 FEL 43-047-40141 NBU 1022-24I1S Sec 24 T10S R22E 2062 FSL 1130 FEL BHL Sec 24 T10S R22E 2330 FSL 0585 FEL 43-047-40142 NBU 1022-24G3S Sec 24 T10S R22E 2037 FSL 1184 FEL BHL Sec 24 T10S R22E 2225 FNL 2140 FEL

43-047-40140 NBU 1022-24G2S Sec 24 T10S R22E 2053 FSL 1148 FEL

BHL Sec 24 T10S R22E 1815 FNL 2100 FEL

Our records indicate the 1022-24B1AS, 1022-24B1DS, 1022-24G1S and the 1022-24I1 bottom hole location is closer than 460 feet from the Natural Buttes Unit boundary.

We have no objections to permitting the wells so long as the unit operator receives an exception to the locating and siting requirements of the State of Utah (R649-3-2).

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit
 Division of Oil Gas and Mining
 Central Files
 Agr. Sec. Chron
 Fluid Chron

MCoulthard:mc:6-16-08

From:

Jim Davis

To:

Bonner, Ed; Mason, Diana

Date:

1/28/2009 10:59 AM

Subject:

APD approvals- A bunch of Kerr McGee

CC:

Garrison, LaVonne; Raleen.White@anadarko.com The following wells have been approved by SITLA including arch and paleo clearance.

Condition of approval: Spot-checking of pad construction/ extension for paleo resources:

NBU 1022-24B1AS 4304740129 4304740130 NBU 1022-24B1DS NBU 1022-24G1S 4304740131

and

NBU 1022-25J3S 4304750070 4304750069 NBU 1022-25J1S NBU 1022-2502S 4304750071

No COA's:

NBU 1022-24G2S 4304740140 NBU 1022-24G3S 4304740142 NBU 1022-241IS 4304740141

FYI: These wells had been approved by SITLA previously. The APDs have been extended. Kerr McGee recently sent paleo reports to SITLA- there were no recommendations from the surveying paleontologist. Just in case anyone needs it, SITLA (still) approves of these APDs.

NBU 1022-25G 4304739142 NBU 1022-25G3S 4304740443 NBU 1022-25G4S 4304740442 NBU 1022-25G2S 4304740441

Jim Davis **Utah Trust Lands Administration** jimdavis1@utah.gov Phone: (801) 538-5156



Lieutenant Governor

# State of Utah

### DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA Division Director January 28, 2009

Kerr-McGee Oil & Gas Onshore, LP P O Box 173779 Denver, CO 80217-3779

Re:

NBU 1022-24G3S Well, 2037' FSL, 1184' FEL, NE SE, Sec. 24, T. 10 South,

R. 22 East, Bottom Location 2225' FNL, 2140' FEL, SW NE, Sec. 24, T. 10 South,

R. 22 East, Uintah County, Utah

### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-40142.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

**Uintah County Assessor** 

SITLA

Bureau of Land Management, Vernal Office



Operator:		Kerr-McGee Oil & Gas Onshore, LP				
Well Name & Numl	oerNBU 1022-24G3S					
API Number:		43-047-	40142			
Lease:		ST ML 23610				
Location:	NE SE_	Sec24_	<b>T.</b> 10 South	<b>R.</b> 22 East		
<b>Bottom Location:</b>	SW NE	Sec. 24	T. 10 South	<b>R.</b> 22 East		

# **Conditions of Approval**

### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

# 2. Notification Requirements

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to spudding the well contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well contact Dustin Doucet
- Any changes to the approved drilling plan contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

• Dan Jarvis at: (801) 538-5338 office (801) 942-0871 home

• Carol Daniels at: (801) 538-5284 office

• Dustin Doucet at: (801) 538-5281 office (801) 733-0983 home

# 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Page 2 43-047-40142 January 28, 2009

- 4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
- 5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
- 6. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
- 7. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURC DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ST ML 23610
SUND	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	sals to drill new wells, significantly deepen igged wells, or to drill horizontal laterals. U		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-24G3S		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSI	HORE, L.P.		9. API NUMBER: 43047401420000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	treet, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2037 FSL 1184 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NESE Section: 24	P, RANGE, MERIDIAN: Township: 10.0S Range: 22.0E Meridian: S	S	STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
Kerr-McGee Oil & Ga extension to this A	CHANGE TO PREVIOUS PLANS CHANGE WELL STATUS DEEPEN OPERATOR CHANGE PRODUCTION START OR RESUME REPERFORATE CURRENT FORMATION TUBING REPAIR WATER SHUTOFF WILDCAT WELL DETERMINATION OMPLETED OPERATIONS. Clearly show all per as Onshore, L.P. (Kerr-McGee) PD for the maximum time allowith any questions and/or con	) respectfully requests an owed. Please contact the nments. Thank you.	CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  ✓ APD EXTENSION  OTHER:  Folumes, etc.  Approved by the  Utah Division of  Oil, Gas and Mining  ate: January 25, 2010  y:
NAME (PLEASE PRINT)	PHONE NUMBER		
Danielle Piernot  SIGNATURE N/A	720 929-6156	Regulatory Analyst  DATE 1/25/2010	



# The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

# Request for Permit Extension Validation Well Number 43047401420000

**API:** 43047401420000 Well Name: NBU 1022-24G3S

Location: 2037 FSL 1184 FEL QTR NESE SEC 24 TWNP 100S RNG 220E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 1/28/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not requ

uire revi	sion. Following is a checklist	of some items related to the applicat	ion, which should be verified.
	ated on private land, has the ed? No	ownership changed, if so, has the sui	face agreement been
	any wells been drilled in the requirements for this location	vicinity of the proposed well which w n? 🕡 Yes 📵 No	ould affect the spacing or
	here been any unit or other a s proposed well? 🔘 Yes 🍺	greements put in place that could affo	ect the permitting or operation
	there been any changes to the the proposed location?	e access route including ownership, o Yes 📵 No	or rightof- way, which could
• Has tl	he approved source of water	for drilling changed? 📗 Yes 🌘 N	o
		ges to the surface location or access cussed at the onsite evaluation?	
• Is boı	nding still in place, which cov	ers this proposed well? 📵 Yes 🗍	Approved by the No Utah Division of Oil, Gas and Mining
		ate: 1/25/2010	
Title:	Regulatory Analyst Represent	ing: KERR-MCGEE OIL & GAS ONSHOR₽	ate: January 25, 2010
			/ -

Sig

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MININ	G	5.LEASE DESIGNATION AND SERIAL NUMBER: ST ML 23610
SUNDF	RY NOTICES AND REPORTS OF	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	sals to drill new wells, significantly deepen exisugged wells, or to drill horizontal laterals. Use A		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 1022-24G3S	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047401420000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHONE N treet, Suite 600, Denver, CO, 80217 3779	TUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2037 FSL 1184 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI	IP, RANGE, MERIDIAN: Township: 10.0S Range: 22.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE N	IATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
Kerr-McGee Oil & G extension to this A	CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION  TUBING REPAIR  WATER SHUTOFF	espectfully requests an ed. Please contact the nents. Thank you.	CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  ✓ APD EXTENSION  OTHER:  Olumes, etc.  Approved by the  Utah Division of  Oil, Gas and Mining  02/03/2011  y:
			7 3
NAME (PLEASE PRINT) Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	TITLE Regulatory Analyst	
SIGNATURE		DATE 1/28/2011	



# The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

# Request for Permit Extension Validation Well Number 43047401420000

**API:** 43047401420000 Well Name: NBU 1022-24G3S

Location: 2037 FSL 1184 FEL QTR NESE SEC 24 TWNP 100S RNG 220E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 1/28/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not

uire revision. Following is a checklist of some items related to the application, which should be verified.
<ul> <li>If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes No</li> </ul>
<ul> <li>Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?</li> <li>Yes</li> <li>No</li> </ul>
<ul> <li>Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?</li> <li>Yes</li> <li>No</li> </ul>
<ul> <li>Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?</li> <li>Yes</li> <li>No</li> </ul>
• Has the approved source of water for drilling changed? 🔵 Yes 🌘 No
<ul> <li>Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?</li> <li>Yes</li> <li>No</li> </ul>
• Is bonding still in place, which covers this proposed well?   Yes   No
nature: Danielle Piernot Date: 1/28/2011

**Signature:** Danielle Piernot

Title: Regulatory Analyst Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.



# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 10, 2012

Kerr McGee Oil & Gas Onshore, L.P. P.O. Box 173779 Denver, CO 80217

Re:

<u>APD Rescinded – NBU 1022-24G3S, Sec. 24, T. 10S, R. 22E</u> <u>Uintah County, Utah API No. 43-047-40142</u>

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on January 28, 2009. On January 25, 2010 and February 3, 2011 the Division granted a one-year APD extension. On February 10, 2012, you requested that the division rescind the state approved APD. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective February 10, 2012.

A new APD must be filed with this office for approval <u>prior</u> to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason

Environmental Scientist

cc: Well File

SITLA, Ed Bonner

